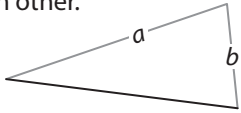
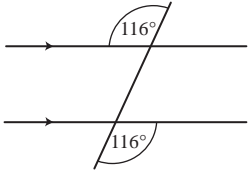
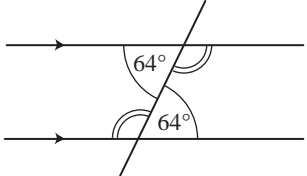


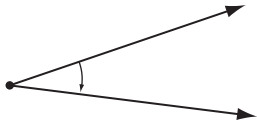
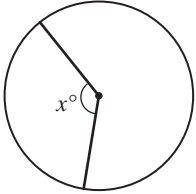


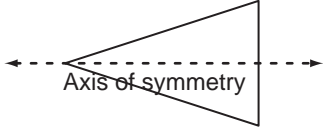

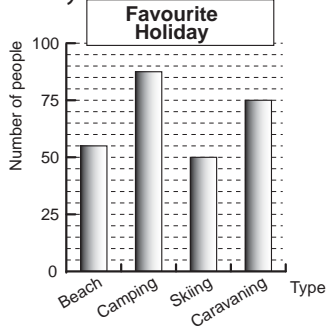
GLOSSARY

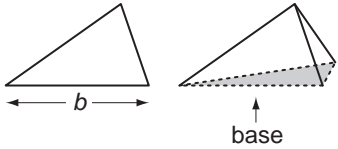
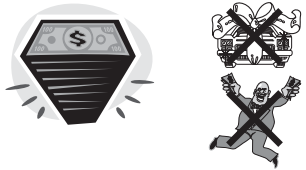
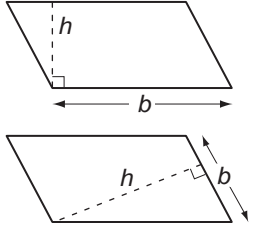
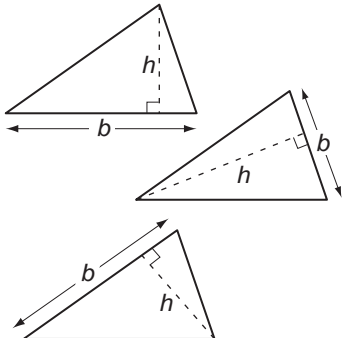


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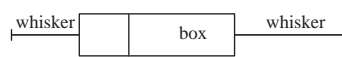
| TERMS | DEFINITIONS | EXAMPLES |
|------------------------------------|---|--|
| accuracy | <ul style="list-style-type: none"> How close the result of a measuring comes to the true value. | 3.14 is a fairly accurate estimation of π . |
| acute angle | <ul style="list-style-type: none"> An <i>angle</i> measuring less than 90°. | |
| acute-angled triangle | <ul style="list-style-type: none"> A <i>triangle</i> in which all <i>angles</i> measure less than 90°. | |
| add (+) | <ul style="list-style-type: none"> To join together. | <p>If you add 1 black cow and 2 white cows, there are $1 + 2 = 3$ cows all together.</p> |
| addition | <ul style="list-style-type: none"> The <i>operation</i> of finding the total or sum of two or more numbers to make one number. The result is called the <i>sum</i> or <i>total</i>. | <p>Adding 15 and 6 we reach a total (sum) of 21. $15 + 6 = 21$</p> |
| addition law of probability | <ul style="list-style-type: none"> A method for finding the <i>likelihood</i> that either or both of two <i>events</i> occur. | <p>Addition rule for mutually exclusive events (either not both): $P(A \text{ or } B) = P(A) + P(B)$</p> <p>Addition rule for non exclusive events: $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$</p> |
| adjacent | <ul style="list-style-type: none"> Immediately next to. | <p>The Daniher's live adjacent to the Bourke's.</p> |
| adjacent angles | <ul style="list-style-type: none"> Two angles that have a common side and a common vertex but have no interior points. | <p>$\angle ABC$ is adjacent to $\angle CBD$.</p> |

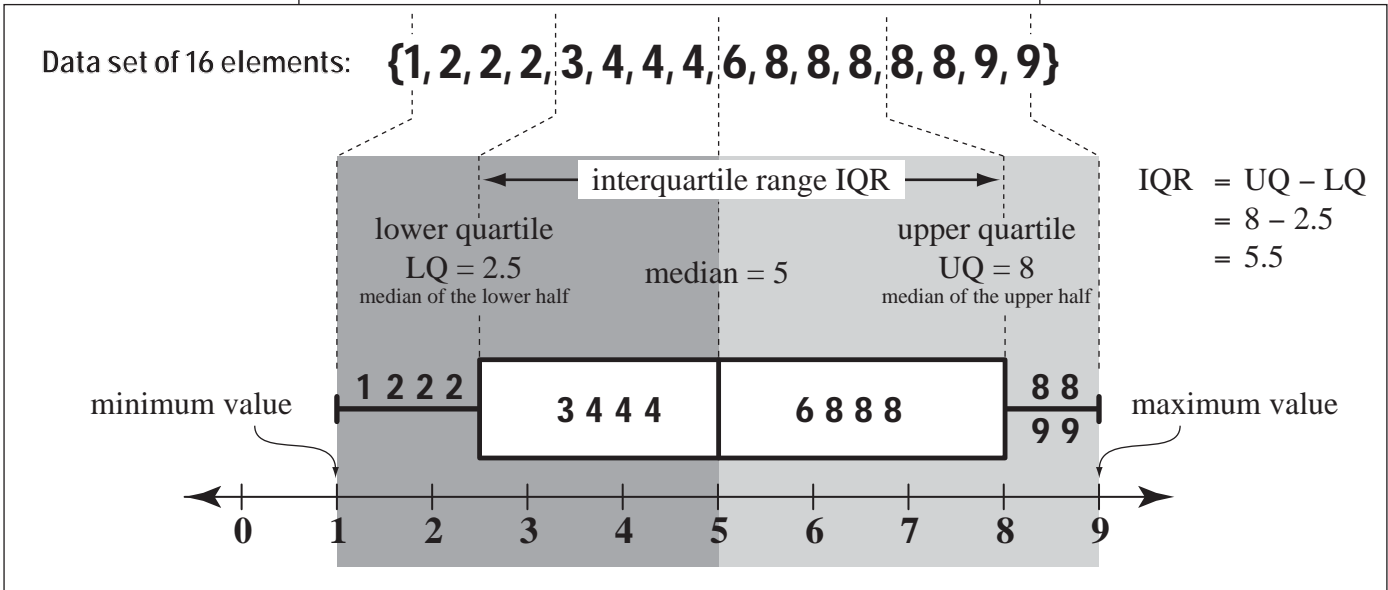
| | | |
|--|--|---|
| adjacent sides | <ul style="list-style-type: none"> • <i>Sides</i> immediately next to each other in a shape. | <p>Sides a and b are adjacent to each other.</p>  |
| algebra | <ul style="list-style-type: none"> • A branch of Mathematics where numbers are represented by letters or symbols, called <i>pronumerals</i> or <i>variables</i>. | <p>$x + x = 6$, so x equals 3 $\clubsuit \div 3 = 12$, so \clubsuit equals 36</p> |
| alternate exterior angles | <ul style="list-style-type: none"> • Angles in the <i>opposite</i>, outside corners when a <i>transversal</i> crosses a set of <i>parallel lines</i>. • Alternate exterior angles are equal. |  |
| alternate interior angles | <ul style="list-style-type: none"> • Angles in the <i>opposite</i>, inside corners when a <i>transversal</i> crosses a set of <i>parallel lines</i>. • Alternate interior angles are equal. | <p>One set of alternate interior angles measure 64°, the others are marked and measure 116°.</p>  |
| altitude | <ul style="list-style-type: none"> • <i>Height</i> above sea level. | <p>The plane flies at an altitude of 10 000 metres.</p> |
| am (ante meridiem) | <ul style="list-style-type: none"> • The <i>time</i> from midnight to midday (morning). |  |
| analogue clock | <ul style="list-style-type: none"> • A clock or watch that has rotating hands and shows <i>12 hour time</i>. |  |
| angle | <ul style="list-style-type: none"> • The amount of turning between two straight <i>lines</i> that are fixed at a <i>point</i>. • An angle is measured in <i>degrees</i>. |  |
| angle at the centre of a circle | <ul style="list-style-type: none"> • An <i>angle</i> with the corner in the <i>centre</i> of a <i>circle</i>. |  |




| | | |
|---|--|---|
| angle at the circumference of a circle | <ul style="list-style-type: none"> An <i>angle</i> with the corner on the <i>circumference</i> of a <i>circle</i>. | |
| angle θ (theta) | <ul style="list-style-type: none"> 'θ' (theta) is a letter of the Greek alphabet often used to label an <i>angle</i> in <i>trigonometry</i>. | |
| annual | <ul style="list-style-type: none"> Happening <i>once</i> a year. | |
| annual interest rate | <ul style="list-style-type: none"> The <i>percentage</i> of the <i>principal</i> you earn or pay each year. The <i>principal</i> is an amount of money that is deposited or borrowed. | If you deposit \$100 into a savings account that pays 4% interest rate per year, then you earn \$4 in interest that year. |
| anticlockwise | <ul style="list-style-type: none"> Moving in the <i>opposite direction</i> to the hands on a clock. | |
| approximate | <ul style="list-style-type: none"> Very close to the actual size. To <i>estimate</i> by <i>rounding off</i>. | If you have \$24.85 in your wallet, you can say you have approximately \$25.00. |
| arc of a circle | <ul style="list-style-type: none"> A section of the circumference of a <i>circle</i>. It can be measured by the size of the <i>angle</i> at its centre or by the length of the arc itself. | |
| area | <ul style="list-style-type: none"> The amount of surface covered by a <i>2D shape</i>. Area is measured in <i>square units</i>, e.g. square centimetres (cm²) or square metres (m²). | <p>The area of a rectangle is calculated by multiplying length (<i>l</i>) by width (<i>w</i>):</p> $A = lw$ $= 4 \times 2$ $= 8$ <p>Area = 8 square units</p> |
| ascending order | <ul style="list-style-type: none"> Arranged from smallest to largest. Becoming larger, greater or higher. | 3, 5 and 7 are in ascending order. |

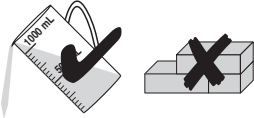

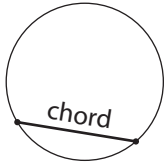

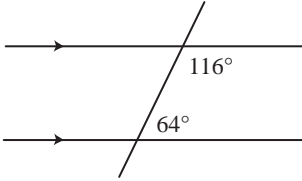
| <p>associative property (of addition and multiplication)</p> | <ul style="list-style-type: none"> • Rule: When <i>adding</i> or <i>multiplying</i>, no matter how the numbers are grouped, the answers will always be the same. | $a + (b + c) = (a + b) + c$ $1 + (3 + 4) = (1 + 3) + 4$ $8 = 8$ <p style="text-align: right;">“+”</p> $a \times (b \times c) = (a \times b) \times c$ $1 \times (3 \times 4) = (1 \times 3) \times 4$ $12 = 12$ <p style="text-align: right;">“x”</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|---|--------------|------------------|-------|----|---------|----|--------|----|-------------|----|---|---|---|---|---------|--|---|---|---|---|--|---|---|--|--|
| <p>average</p> | <ul style="list-style-type: none"> • Or <i>mean</i>, is the total of all scores divided by how many scores there are. • The number that could be used to replace every number in a set of numbers without changing the total <i>sum</i> for the set. | <p>The average of 5, 7 and 9 is 7. $5 + 7 + 9 = 21$ and $21 \div 3 = 7$ So $7 + 7 + 7 = 21$</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>average speed</p> | <ul style="list-style-type: none"> • See <i>speed</i>. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>axis of symmetry</p> | <ul style="list-style-type: none"> • (pl. axes) See <i>line of symmetry</i>. |  | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>back-to-back stem-and-leaf plot</p> | <ul style="list-style-type: none"> • A diagram displaying <i>data by place value</i>. • See <i>stem-and-leaf plot</i> | <p>Data A: 5, 18, 18, 19, 19, 21 Data B: 5, 17, 17, 18, 20, 21, 30,</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">B</th> <th>Stem</th> <th colspan="2">A</th> </tr> </thead> <tbody> <tr> <td></td> <td>5</td> <td>0</td> <td></td> <td>5</td> </tr> <tr> <td>8</td> <td>7</td> <td>7</td> <td>1</td> <td>8 8 9 9</td> </tr> <tr> <td></td> <td>1</td> <td>0</td> <td>2</td> <td>1</td> </tr> <tr> <td></td> <td>0</td> <td>3</td> <td></td> <td></td> </tr> </tbody> </table> | B | | Stem | A | | | 5 | 0 | | 5 | 8 | 7 | 7 | 1 | 8 8 9 9 | | 1 | 0 | 2 | 1 | | 0 | 3 | | |
| B | | Stem | A | | | | | | | | | | | | | | | | | | | | | | | | |
| | 5 | 0 | | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 7 | 7 | 1 | 8 8 9 9 | | | | | | | | | | | | | | | | | | | | | | | |
| | 1 | 0 | 2 | 1 | | | | | | | | | | | | | | | | | | | | | | | |
| | 0 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>backwards</p> | <ul style="list-style-type: none"> • Away from your front. • In reverse of the usual way. |  | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>balance (money)</p> | <ul style="list-style-type: none"> • The amount of money remaining in a bank account after all transactions have been completed. | <p>The bank account held \$32. After \$12 was withdrawn the balance of the account was \$20.</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>bar graph</p> | <ul style="list-style-type: none"> • A graph using <i>columns</i> to show quantities or numbers so they can be easily compared. | <p>Camping is the favourite holiday.</p>  <table border="1"> <caption>Favourite Holiday</caption> <thead> <tr> <th>Holiday Type</th> <th>Number of people</th> </tr> </thead> <tbody> <tr> <td>Beach</td> <td>55</td> </tr> <tr> <td>Camping</td> <td>90</td> </tr> <tr> <td>Skiing</td> <td>50</td> </tr> <tr> <td>Caravanning</td> <td>75</td> </tr> </tbody> </table> | Holiday Type | Number of people | Beach | 55 | Camping | 90 | Skiing | 50 | Caravanning | 75 | | | | | | | | | | | | | | | |
| Holiday Type | Number of people | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Caravanning | 75 | | | | | | | | | | | | | | | | | | | | | | | | | | |

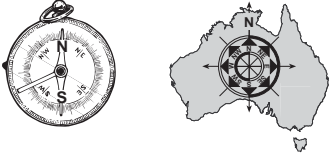
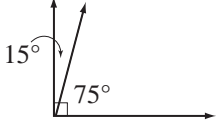
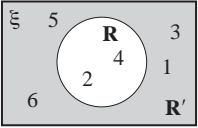

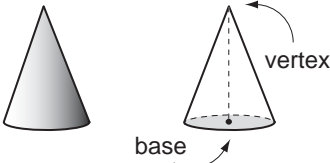
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| <p>base</p> | <ul style="list-style-type: none"> • A <i>line</i> or surface on which a figure stands. |  |
| <p>base income (money)</p> | <ul style="list-style-type: none"> • The gross income, for a specified period of <i>time</i>, that does not include bonus or overtime income. |  |
| <p>base of a parallelogram</p> | <ul style="list-style-type: none"> • The base (<i>b</i>) of a <i>parallelogram</i> is the <i>length</i> of any of its <i>sides</i>. |  |
| <p>base of a triangle</p> | <ul style="list-style-type: none"> • The base (<i>b</i>) of a <i>triangle</i> is the <i>length</i> of any of its <i>sides</i>. |  |
| <p>basic numeral</p> | <ul style="list-style-type: none"> • Numbers written in their <i>simplest form</i>. • <i>Whole numbers</i> and <i>decimal numbers</i> are basic numerals. • <i>Fractions, percentages, powers, square roots, etc.</i> are not basic numerals because an <i>operation</i> can be performed to <i>simplify</i> them. | <p>9 and 1.8 are basic numerals.</p> <p>$\frac{5}{8}$, 35%, 7^4 and $\sqrt{12}$ are not basic numerals.</p> |
| <p>between</p> | <ul style="list-style-type: none"> • At a place bounded by two or more places. | <p>The child is between her parents.</p>  |
| <p>bi</p> | <ul style="list-style-type: none"> • (or di) Prefix meaning two. | <p>A bicycle has 2 wheels.</p>  |
| <p>binomial</p> | <ul style="list-style-type: none"> • A <i>polynomial</i> with two <i>terms</i>. | <p>$a + 3b$, $3gh - 2g$, $x^2 + 3x$ are all binomials.</p> |
| <p>binomial factors</p> | <ul style="list-style-type: none"> • <i>Binomials</i> written as a <i>product</i>. Some <i>quadratic trinomials</i> are the product of two binomial factors. | <p><i>binomial factor</i> <i>trinomial</i></p> <p>$(x + 2)(x + 1) = x^2 + 3x + 2$</p> <p><i>binomial factor</i></p> |

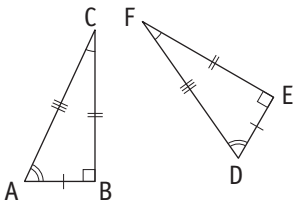
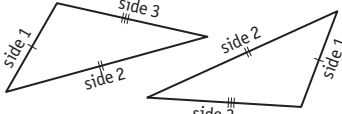
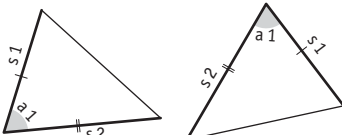
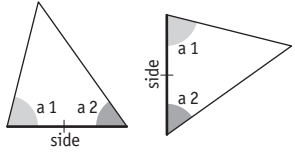
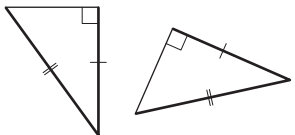

| | | |
|------------------------------------|--|---|
| <p>bisect</p> | <ul style="list-style-type: none"> To split into two <i>equal</i> parts. | $\overline{AM} = \overline{MB}$  |
| <p>BODMAS</p> | <ul style="list-style-type: none"> The order of operations rule - <i>Brackets, Orders (Powers and square roots), Division, Multiplication, Addition and Subtraction.</i> | <p>See <i>Order of operations</i></p> |
| <p>box-and-whisker plot</p> | <ul style="list-style-type: none"> A <i>graph</i> that shows the distribution of a <i>set of data</i>. It displays the <i>median, upper quartile, lower quartile, maximum</i> and <i>minimum</i> values. |  |



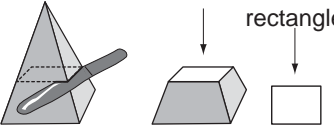
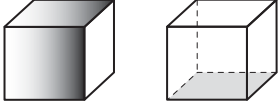
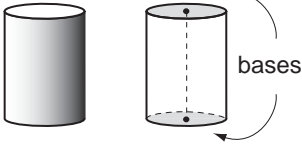
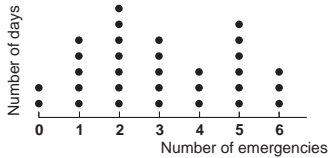

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| <p>brackets ()</p> | <ul style="list-style-type: none"> A <i>pair</i> of symbols used to enclose a mathematical <i>expression</i>. | $(12 - 4) \div 2 = 4$ Brackets group 12 take away 4. |
| <p>calculate</p> | <ul style="list-style-type: none"> To work something out. | $3 + 5 + 6 = 14$  |
| <p>calendar</p> | <ul style="list-style-type: none"> A <i>time chart</i> that tells us what <i>day, week, month</i> and <i>year</i> it is. |  |
| <p>calibration</p> | <ul style="list-style-type: none"> A mark on a <i>scale</i>. |  |
| <p>cancel</p> | <ul style="list-style-type: none"> To strike out an <i>equal term</i> on each side of an <i>equation</i>. | $x - 3 = 6$ cancel -3 by adding 3 to both sides of the equation $x - \cancel{3} + \cancel{3} = 6 + 3 \quad -3 + 3 = 0$ $x = 9$ |

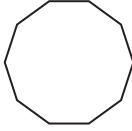
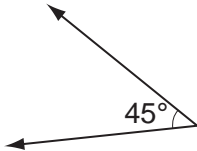
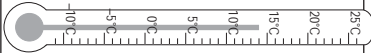

| <p>capacity</p> | <ul style="list-style-type: none"> • Or <i>volume</i>, is the measure of the amount of liquid a container can hold. | <p>A jug has capacity because it can hold liquid, a brick does not.</p>  | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|--|---|-----------|---------------------|--------------|-----------|-----|---|---|-----|-----|----|----|-------|-----|----|----|-------|-----|----|----|-------|
| <p>Cartesian plane</p> | <ul style="list-style-type: none"> • See <i>coordinate plane</i>. | | | | | | | | | | | | | | | | | | | | | |
| <p>chance</p> | <ul style="list-style-type: none"> • The likelihood that a particular result or <i>outcome</i> will occur. | <p>The chance of rolling a 2 with a standard die is 1 in 6.</p>  | | | | | | | | | | | | | | | | | | | | |
| <p>chord</p> | <ul style="list-style-type: none"> • A <i>line segment</i> on the <i>interior</i> of a <i>circle</i>. A chord has both end points on the <i>circumference</i> of the circle. |  | | | | | | | | | | | | | | | | | | | | |
| <p>closest</p> | <ul style="list-style-type: none"> • Nearest to. | <p>The son is closest to the mother.</p>  | | | | | | | | | | | | | | | | | | | | |
| <p>co-interior angles</p> | <ul style="list-style-type: none"> • Angles in the <i>adjacent</i> corners when a <i>transversal</i> crosses a set of <i>parallel lines</i>. • Co-interior angles add to 180°. |  | | | | | | | | | | | | | | | | | | | | |
| <p>coefficient</p> | <ul style="list-style-type: none"> • The number which multiplies a <i>variable</i>. | <p>3 is the coefficient of $3x$ 6 is the coefficient of $6y^4$</p> | | | | | | | | | | | | | | | | | | | | |
| <p>column</p> | <ul style="list-style-type: none"> • A <i>vertical</i> line of <i>data</i> in a table. | <p>Netball: Aust v NZ</p> <table border="1" data-bbox="1222 1487 1501 1697"> <thead> <tr> <th>Quarters</th> <th>NZ Shooting chances</th> <th>Actual goals</th> <th>Success %</th> </tr> </thead> <tbody> <tr> <td>1st</td> <td>9</td> <td>9</td> <td>100</td> </tr> <tr> <td>2nd</td> <td>14</td> <td>13</td> <td>92.85</td> </tr> <tr> <td>3rd</td> <td>23</td> <td>20</td> <td>86.95</td> </tr> <tr> <td>4th</td> <td>18</td> <td>17</td> <td>94.44</td> </tr> </tbody> </table> <p style="text-align: center;">↑</p> | Quarters | NZ Shooting chances | Actual goals | Success % | 1st | 9 | 9 | 100 | 2nd | 14 | 13 | 92.85 | 3rd | 23 | 20 | 86.95 | 4th | 18 | 17 | 94.44 |
| Quarters | NZ Shooting chances | Actual goals | Success % | | | | | | | | | | | | | | | | | | | |
| 1st | 9 | 9 | 100 | | | | | | | | | | | | | | | | | | | |
| 2nd | 14 | 13 | 92.85 | | | | | | | | | | | | | | | | | | | |
| 3rd | 23 | 20 | 86.95 | | | | | | | | | | | | | | | | | | | |
| 4th | 18 | 17 | 94.44 | | | | | | | | | | | | | | | | | | | |
| <p>combinations</p> | <ul style="list-style-type: none"> • A selection of objects from a collection. Order is irrelevant. | <p>A class committee is a combination of 2 boys and 2 girls chosen from a total of 12 boys and 15 girls.</p> | | | | | | | | | | | | | | | | | | | | |
| <p>commission (money)</p> | <ul style="list-style-type: none"> • The pay or <i>percentage</i> paid to an agent. | <p>5% of the sale price of \$100 000 goes to the agent in commission. The agent gets \$5000.</p> | | | | | | | | | | | | | | | | | | | | |


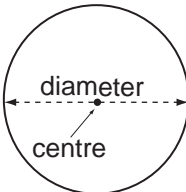


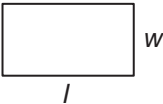
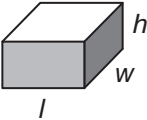

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|---|---|---|
| <p>common factor</p> | <ul style="list-style-type: none"> • A <i>whole number</i> that is a <i>factor</i> of two or more non-zero whole numbers. | <p>The common factors of 18 and 24 are 1, 2, 3 and 6.</p> |
| <p>common multiple</p> | <ul style="list-style-type: none"> • A <i>whole number</i> that is a <i>multiple</i> of two or more non-zero <i>whole numbers</i>. | <p>The common multiples of 5 and 6 are 30, 60, 90,</p> |
| <p>commutative property (of addition and multiplication)</p> | <ul style="list-style-type: none"> • Rule: When <i>adding</i> or <i>multiplying</i>, no matter how the numbers are ordered, the answers will always be the same. | $a + b = b + a$ $1 + 3 = 3 + 1$ $4 = 4$ <p style="text-align: right;">" + "</p> $a \times b = b \times a$ $3 \times 4 = 3 \times 4$ $12 = 12$ <p style="text-align: right;">" x "</p> |
| <p>compass</p> | <ul style="list-style-type: none"> • An instrument that shows <i>direction</i>. |  |
| <p>complement of an angle</p> | <ul style="list-style-type: none"> • An <i>angle</i> that, when added to the first angle, makes a <i>right angle</i> (or 90° in total). | <p>75° is the complement of 15°, because $75^\circ + 15^\circ = 90^\circ$</p>  |
| <p>complementary event (')</p> | <ul style="list-style-type: none"> • The opposite of an event. The <i>set</i> of all outcomes that are not included in the <i>event</i>. | <p>The event is to roll a die and $R = \{2, 4\}$ is the result. The complement of event R is R'. $R' = \{1, 3, 5, 6\}$</p>  |
| <p>composite shapes</p> | <ul style="list-style-type: none"> • A combination of two or more <i>2D</i> shapes into one figure. |  <p>The above diagram is the composite of 3 rectangular shapes.</p> |
| <p>compound interest</p> | <ul style="list-style-type: none"> • Interest calculated, not only on the original <i>principal</i>, but also on the interest that has been added at the end of each pay period. | <p>Interest calculated grows the principal amount which in turn grows the interest calculated.</p> |
| <p>cone</p> | <ul style="list-style-type: none"> • A <i>solid</i> with one circular base and one <i>vertex</i>. |  |

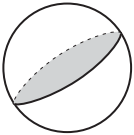
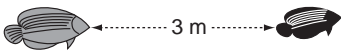
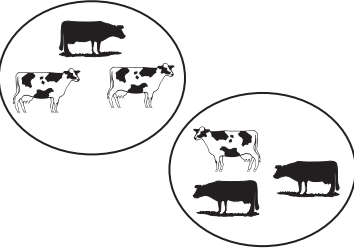
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| congruent shapes | <ul style="list-style-type: none"> • Have exactly the same size and shape. | <p>Triangles ABC and DEF are congruent.</p>  <p>Sides Corresponding sides are congruent: $\overline{AB} \equiv \overline{DE}$, $\overline{BC} \equiv \overline{FE}$, $\overline{AC} \equiv \overline{DF}$</p> <p>Angles Corresponding angles are congruent: $\angle A \equiv \angle D$, $\angle B \equiv \angle E$, $\angle C \equiv \angle F$</p> |
| congruence tests for triangles | <ul style="list-style-type: none"> • Methods used to determine if <i>triangles</i> are the same shape and size. | |
| 1. Side-side-side (SSS) | If two triangles have: three pairs of sides the same length then the triangles are congruent. |  |
| 2. Side-angle-side (SAS) | If two triangles have: two pairs of sides the same length and the angle formed by the two sides is the same then the triangles are congruent. |  |
| 3. Angle-side-angle (ASA) | If two triangles have: two pairs of angles the same and the pair of sides which are in between the two angles the same length then the triangles are congruent. |  |
| 4. Right angle-hypotenuse-side (RHS) | If two right-angled triangles have: their hypotenuses and a pair of sides the same length then the triangles are congruent. |  |
| consecutive numbers | <ul style="list-style-type: none"> • Numbers that follow each other. | 4 and 5 are consecutive numbers.  |
| constant term | <ul style="list-style-type: none"> • A <i>term</i> that has a fixed value and does not contain a <i>variable</i>. | Opposite to a <i>variable</i> . In $y = x + 5$ 5 is constant x and y are variables. The speed of light in a vacuum (c) is a constant. $c = 299792458 \text{ m/s}$ |
| conversion factor | <ul style="list-style-type: none"> • The amount that you <i>multiply</i> or <i>divide</i> a number by to change it to a different <i>unit of measurement</i>. | $1 \text{ m} = 100 \text{ cm}$ The conversion factor for changing metres to centimetres is 100. |


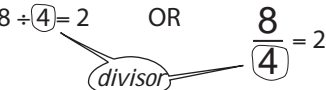
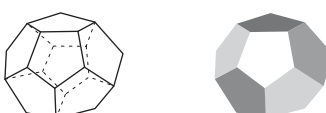
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| <p>convert</p> | <ul style="list-style-type: none"> • Change from a <i>unit</i> to another. | <p>90 km/h can be converted to a 25 m/s.</p> |
| <p>coordinate plane</p> | <ul style="list-style-type: none"> • A <i>plane</i> divided into four <i>quadrants</i> by a <i>horizontal line</i> called the <i>x-axis</i> and a <i>vertical line</i> called the <i>y-axis</i>. | |
| <p>coordinates</p> | <ul style="list-style-type: none"> • An <i>ordered pair</i> of numbers that locate a <i>point</i> on a <i>coordinate plane</i>. • The <i>first</i> number tells you how far from the <i>origin</i> to move along the <i>x-axis</i>. The <i>second</i> tells you how far from the origin to move along the <i>y-axis</i>. • They are written in <i>brackets</i> with a comma in between. | <p>(4,2) are the coordinates of a point located 4 units to the right and 2 units upward from the origin (0,0).</p> |
| <p>corresponding angles</p> | <ul style="list-style-type: none"> • Angles in the matching corners when a <i>transversal</i> crosses a set of <i>parallel lines</i>. • Corresponding angles are <i>equal</i>. | |
| <p>corresponding sides</p> | <ul style="list-style-type: none"> • Two <i>sides</i> that are situated the same way in different geometric shapes. | <p>\overline{AC} corresponds to \overline{HI}</p> |
| <p>cosine</p> | <ul style="list-style-type: none"> • A <i>trigonometric function</i>. • In a <i>right-angled triangle</i>, the cosine of an <i>acute angle</i> is the <i>ratio</i> of the length of the side <i>adjacent</i> to the angle, to the length of the <i>hypotenuse</i>. | <p>$\cos \theta = \frac{\text{Adjacent}}{\text{Hypotenuse}}$</p> |
| <p>counting number</p> | <ul style="list-style-type: none"> • Any of the <i>whole numbers</i> from zero onwards. | <p>0, 1, 2, 3, 4, 5..... are counting numbers.</p> |

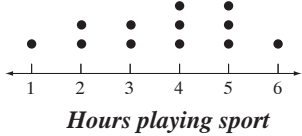
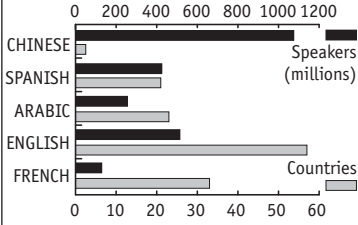

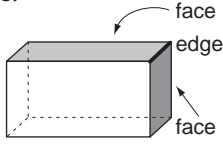


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| <p>cross multiply</p> | <ul style="list-style-type: none"> To simplify a <i>proportion</i>, written as two <i>equal fractions</i> OR To <i>multiply</i> each <i>numerator</i> by the <i>denominator</i> of the fraction across from it. | $a:b = c:d$ $\frac{a}{b} \times \frac{c}{d}$ $a \times d = b \times c$ $ad = bc$ |
| <p>cross-section</p> | <ul style="list-style-type: none"> The <i>shape</i> of the <i>face</i> that results when an object is cut through. |  |
| <p>cross simplify</p> | <ul style="list-style-type: none"> To <i>divide</i> the <i>diagonal</i> numbers (when <i>multiplying two fractions</i>) by the same number to reduce their value before multiplying. | $\frac{3}{4} \times \frac{8}{9} = \frac{\overset{\div 3}{\cancel{3}}}{\underset{\div 4}{\cancel{4}}} \times \frac{\overset{\div 4}{\cancel{8}}}{\underset{\div 3}{\cancel{9}}} = \frac{1}{1} \times \frac{2}{3} = \frac{2}{3}$ |
| <p>cube</p> | <ul style="list-style-type: none"> A <i>solid</i> with six identical <i>square</i> faces. |  |
| <p>cubed</p> | <ul style="list-style-type: none"> A number cubed is the third <i>power</i> of the number. | <p>5 cubed = $5^3 = 5 \times 5 \times 5 = 125$</p> |
| <p>cubic unit</p> | <ul style="list-style-type: none"> A unit of <i>volume</i> expressed in cubic form. | <p>The volume of a solid is measured in the appropriate cubic units, e.g. cm^3 or m^3.</p> |
| <p>cylinder</p> | <ul style="list-style-type: none"> A <i>solid</i> with two <i>parallel</i> circular <i>bases</i> of the same size. |  |
| <p>data</p> | <ul style="list-style-type: none"> Collection of information that can include facts, numbers or measurements. | <p>HOSPITAL EMERGENCIES (MAY)</p>  |
| <p>day</p> | <ul style="list-style-type: none"> A <i>unit</i> of <i>time</i> equal to 24 <i>hours</i>. | <p>A day starts and ends at midnight.</p>  |
| <p>daylight saving time</p> | <ul style="list-style-type: none"> Use of fictitious time in the summer months that prolongs light in the evening hours. | <p>During daylight saving clocks are one hour ahead of real time.</p> |
| <p>deca</p> | <ul style="list-style-type: none"> Prefix meaning ten. | <p>Decathlon is an athletics contest with ten events.</p> |

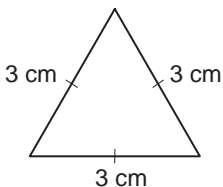
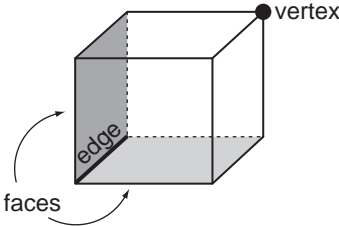
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|-----------------------------|---|--|-------------|------------|-------------|---|---|---|---|--|--|--|---|--|
| decade | <ul style="list-style-type: none"> A <i>unit</i> of <i>time</i> equal to 10 <i>years</i>. | 2011 to 2020 is a decade. | | | | | | | | | | | | |
| decagon | <ul style="list-style-type: none"> A shape with 10 <i>sides</i>. |  | | | | | | | | | | | | |
| decimal number | <ul style="list-style-type: none"> A number based on the ten <i>place value</i> system where a <i>decimal point</i> separates the <i>units</i> and <i>tenths</i>. | The decimal number 4.3 represents: 4 - ones 3 - tenths OR 4 and 3 tenths. | | | | | | | | | | | | |
| decimal place | <table border="1" data-bbox="399 638 699 790"> <tr> <td>units</td> <td>tenths</td> <td>hundredths</td> <td>thousandths</td> </tr> <tr> <td>0</td> <td>.</td> <td>7</td> <td>6</td> </tr> <tr> <td></td> <td></td> <td></td> <td>3</td> </tr> </table> | units | tenths | hundredths | thousandths | 0 | . | 7 | 6 | | | | 3 | 7 is in the tenths place. 6 is in the hundredths place. 3 is in the thousandths place. |
| units | tenths | hundredths | thousandths | | | | | | | | | | | |
| 0 | . | 7 | 6 | | | | | | | | | | | |
| | | | 3 | | | | | | | | | | | |
| decimal point (.) | <ul style="list-style-type: none"> A point that separates the <i>units</i> and <i>tenths</i> in a <i>decimal number</i>. | 2.5 is a decimal number where the 2 and the 5 are separated by a decimal point. | | | | | | | | | | | | |
| decrease | <ul style="list-style-type: none"> To make smaller. | 8 must decrease by 5 to become 3. | | | | | | | | | | | | |
| deduct | <ul style="list-style-type: none"> To take away. | If you deduct 1 from 3 there are 2 left. $3 - 1 = 2$ | | | | | | | | | | | | |
| degree (°) | <ul style="list-style-type: none"> A <i>unit</i> used to measure the amount of turn in an <i>angle</i>. | Angle measures 45° .  | | | | | | | | | | | | |
| degrees Celsius (°C) | <ul style="list-style-type: none"> A <i>unit</i> used to measure temperature. | The thermometer shows 14°C .  | | | | | | | | | | | | |
| denominator | <ul style="list-style-type: none"> The number below the fraction bar in a <i>fraction</i>. The number of equal parts in one whole. | Considering fifths, 5 parts would make a whole.  | | | | | | | | | | | | |
| deposit (money) | <ul style="list-style-type: none"> To pay an amount of money into a bank account. | A deposit of \$15 into a bank account with a balance of \$25 will increase the account balance to \$40. | | | | | | | | | | | | |



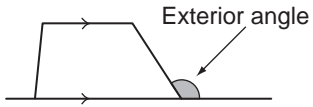
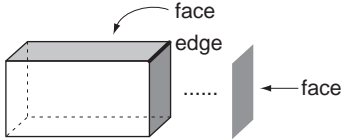
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| descending order | <ul style="list-style-type: none"> Arranged from largest to smallest. Becoming smaller, lesser or lower. | 8, 6 and 2 are in descending order. |
| diagonal | <ul style="list-style-type: none"> A straight <i>line</i> inside a <i>polygon</i> joining any two <i>vertices</i> that are not next to each other. |  |
| diameter of a circle | <ul style="list-style-type: none"> A <i>segment</i> that passes through the <i>centre</i> of a <i>circle</i> and has both endpoints on the circle. The diameter of a circle is twice the length of its <i>radius</i>. |  |
| die | <ul style="list-style-type: none"> (pl. dice) A numbered <i>cube</i> that is used in games. A standard die has 1 to 6 pips (dots) on each <i>face</i> with <i>opposite</i> faces adding to 7. |  |
| difference | <ul style="list-style-type: none"> The result when a number is <i>subtracted</i> from another number. The amount by which one number is bigger or smaller than another number. | The difference between 5 and 3 is 2. $5 - 3 = 2$ |
| digit | <ul style="list-style-type: none"> Any of the first ten <i>whole numbers</i> from 0 to 9. | There are 10 digits: 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9. |
| digit sum | <ul style="list-style-type: none"> The <i>sum</i> of the <i>digits</i> in a number. | 124 has a digit sum of 7. $1 + 2 + 4 = 7$ |
| digital clock | <ul style="list-style-type: none"> A clock that uses only numbers to show the <i>time</i>. (No hands!) |  |
| dimension | <ul style="list-style-type: none"> A measure of size. A <i>two-dimensional</i> shape (2D shape) has <i>length</i> and <i>width</i>. A <i>three-dimensional</i> shape (3D shape) has <i>length</i>, <i>width</i> and <i>height</i>. | <p>2D shape </p> <p>3D shape </p> |
| direction | <ul style="list-style-type: none"> The way something is placed, pointing or moving. | North, east, south, west, up, down, sideways, backwards and forwards.  |

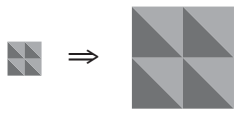
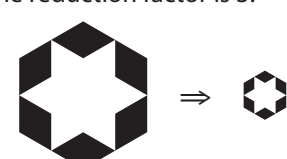
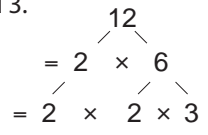
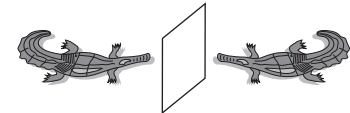
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| disc | <ul style="list-style-type: none"> The union of a <i>circle</i> and its interior. | <p>The cross section of a sphere is always a disc.</p>  |
| discount (money) | <ul style="list-style-type: none"> An amount <i>subtracted</i> from the regular price of an item to get the sale price. | <p>When \$80 track shoes are on sale at 25% off \Rightarrow discount = 25% of \$80 = \$20.</p> |
| distance | <ul style="list-style-type: none"> The <i>length</i> between two <i>points</i>. | <p>The distance between the fish is 3 metres.</p>  |
| distribution | <ul style="list-style-type: none"> To <i>multiply</i> out parts of an <i>expression</i>. The <i>opposite</i> to factorisation. How objects are spaced. | <p>See <i>distributive property</i>.</p> |
| distributive property (of multiplication over addition and subtraction) | <ul style="list-style-type: none"> Rule: You can <i>multiply</i> a <i>sum</i> (or a <i>difference</i>) by multiplying the number outside the brackets by each term of the sum (or the difference). | $a(b + c) = ab + ac$ $2 \times (4 + 3) = 2 \times 4 + 2 \times 3 \quad \text{"+"}$ $14 = 14$ $a(b - c) = ab - ac$ $2 \times (4 - 3) = 2 \times 4 - 2 \times 3 \quad \text{"-"}$ $2 = 2$ |
| divide (\div) | <ul style="list-style-type: none"> To share into groups. | <p>These 6 cows are divided into 2 groups.</p>  <p>$6 \div 2 = 3$ in each group</p> |
| dividend | <ul style="list-style-type: none"> The first number written in a <i>division</i>. It is the number being divided. In a <i>fraction</i> the dividend is the <i>numerator</i>. | <p>In the division: $144 \div 9 = 16$ the number 144 is called the dividend.</p> |
| divisible | <ul style="list-style-type: none"> Can be divided without a <i>remainder</i>. | <p>$20 \div 2 = 10$ with 0 remainder. So 20 is divisible by 2 and 10.</p> |


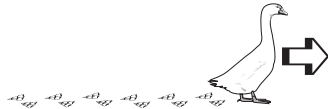


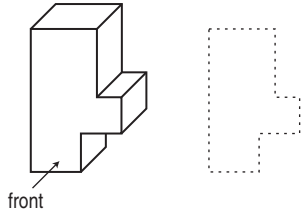
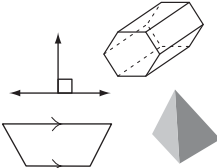
| divisibility tests | <ul style="list-style-type: none"> • Checks performed to help find the <i>factors</i> of a number. | |
|--|---|--|
| Divisibility tests (factor tricks) | | Examples |
| 2 is a factor of all even numbers. | | Numbers that end with 0, 2, 4, 6 and 8, e.g. 754, 120 |
| 3 is a factor of all numbers with a digit sum that is divisible by 3. | | 252 has 3 as a factor because $2 + 5 + 2 = 9$ and 9 is divisible by 3. |
| 4 is a factor of all numbers where the last two digits are divisible by 4. | | 1532 has 4 as a factor because 32 is divisible by 4. |
| 5 is a factor of all numbers whose last digit is a 5 or a 0. | | 120 and 4935 both have 5 as a factor. |
| 6 is a factor of all numbers that have both 2 and 3 as factors. | | 102 has 6 as a factor because 2 and 3 are both factors. |
| 9 is a factor of all numbers with a digit sum that is divisible by 9. | | 1764 has 9 as a factor because $1 + 7 + 6 + 4 = 18$ and 18 is divisible by 9. |
| For 11 to be a factor of a number, the difference between the sum of the even placed digits and the sum of the odd placed digits must be divisible by 11. | | 81917 has 11 as a factor because $1 + 1 = 2$ $8 + 9 + 7 = 24$ and $24 - 2 = 22$ which is divisible by 11. |
| For 10, 100, 1000 to be a factor of a number, that number must end in one 0 or two 0's or three 0's, etc. | | 270 has 10 as a factor, 1400 has 100 as a factor etc. |
| division | <ul style="list-style-type: none"> • The <i>operation</i> of sharing or grouping a number into <i>equal</i> parts. | <p>The division $6 \div 2 = 3$ means: How many groups of 2 can 6 be divided into? OR How many groups of 2 can be taken from 6 before none remain? \Rightarrow 3 groups of 2.</p>  |
| divisor | <ul style="list-style-type: none"> • The <i>second</i> number written in a <i>division</i>. • It is the number that will divide the <i>dividend</i>. <p>In a <i>fraction</i> the divisor is the <i>denominator</i>.</p> | $8 \div (4) = 2$ OR $\frac{8}{(4)} = 2$  |
| dodecahedron | <ul style="list-style-type: none"> • A regular <i>solid</i> in which all twelve <i>faces</i> are <i>regular pentagons</i>. |  |

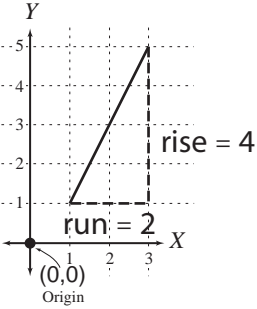

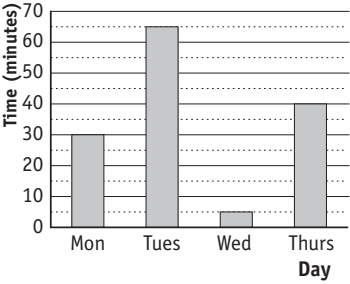
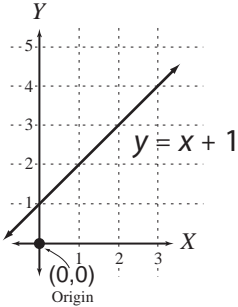
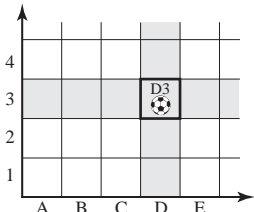
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| <p>dot plot</p> | <ul style="list-style-type: none"> • A <i>graph</i> showing the frequency of data, using a <i>number line</i>. • The number line has all the numbers in the <i>sample</i>. Each observation is marked with a point above the <i>line</i>. | <p>A dot plot showing how many hours are dedicated to sport by 12 people.</p>  <p style="text-align: center;"><i>Hours playing sport</i></p> |
| <p>double</p> | <ul style="list-style-type: none"> • <i>Twice</i> as much. • <i>Multiplied</i> by two. | <p>Double 4 is: $4 + 4 = 8$ OR $4 \times 2 = 8$.</p> |
| <p>double bar graph</p> | <ul style="list-style-type: none"> • A <i>bar graph</i> that shows two sets of <i>data</i> on the same graph. | <p>Officially Spoken Languages</p>  |
| <p>east</p> | <ul style="list-style-type: none"> • A <i>compass direction</i>. | <p>The sun rises in the east.</p>  |
| <p>edges of a solid</p> | <ul style="list-style-type: none"> • The <i>segment</i> (line part) where two <i>faces</i> of a <i>solid</i> meet. | <p>A rectangular prism has 12 edges.</p>  |
| <p>eighth</p> | <ul style="list-style-type: none"> • The position after <i>seventh</i>. | <p>1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th.....</p> |
| <p>elapsed time</p> | <ul style="list-style-type: none"> • The amount of time between the start time and the finish time. | <p>The amount of elapsed time from 2:15 pm to 3:00 pm is 45 minutes.</p> |
| <p>element</p> | <ul style="list-style-type: none"> • A number, letter, point, line, or any other object contained in a set. | <p>The elements of the set $\{a, b, c\}$ are the letters a, b and c.</p> |
| <p>ellipse</p> | <ul style="list-style-type: none"> • A curved shape that looks like a squashed <i>circle</i>. | <p>The approximate orbit of the Earth around the Sun is an ellipse.</p>  |
| <p>enlargement</p> | <ul style="list-style-type: none"> • To reproduce and make bigger. See <i>enlargement factor</i>. | <p>The second object is an enlargement of the first.</p>  |

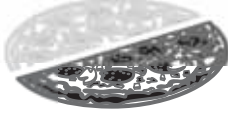
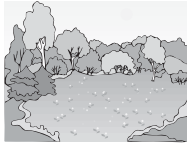


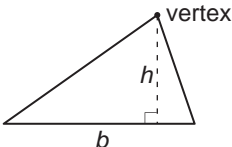
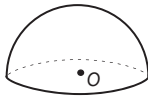
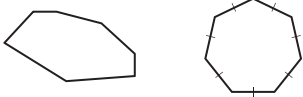
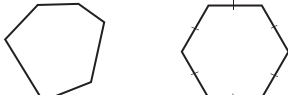
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| equal (=) | <ul style="list-style-type: none"> Exactly the same in value or size. | $7 + 2 = 9$ 100 centimetres is equal to 1 metre: $100 \text{ cm} = 1 \text{ m}$ |
| equal sets | <ul style="list-style-type: none"> The <i>elements</i> of the <i>sets</i> are identical. Order does not matter. | $A = \{1, 2, 3, 4\}$ $B = \{4, 3, 2, 1\}$ $A = B$ |
| equation | <ul style="list-style-type: none"> A mathematical sentence formed by placing an <i>equals</i> sign (=) between two <i>expressions</i>. | $6 \times 2 = 9 + 3$ $4x - 5 = 0$ $2y^2 - 2 = 0$ are examples of equations. |
| equilateral triangle | <ul style="list-style-type: none"> A <i>triangle</i> with all three <i>sides</i> of equal <i>length</i>. |  |
| equivalent fractions | <ul style="list-style-type: none"> <i>Fractions</i> that represent the same number. | $\frac{2}{16}$ and $\frac{8}{64}$ are equivalent fractions. They both equal $\frac{1}{8}$. |
| error | <ul style="list-style-type: none"> The variation of a measurement. It may be contributed to by the <i>precision</i> of the instrument or the <i>accuracy</i> of the measured value. See <i>relative error</i>. | "My measuring may be off by 1%!" |
| estimate | <ul style="list-style-type: none"> To make a close guess based on <i>rounding</i>. | $48 + 21 = ?$ By rounding to $50 + 20$, the estimation of the sum is 70. |
| Euler's formula (pronounced - 'oiler') | <ul style="list-style-type: none"> In any <i>polyhedra</i>: The number of <i>faces</i> + the number of <i>vertices</i> – the number of <i>edges</i> = 2 <p style="text-align: center;">OR</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: auto;"> $F + V - E = 2$ $E = F + V - 2$ </div> | faces + vertices – edges = 2 Cube: $6 + 8 - 12 = 2$ $2 = 2$ (true)  |
| evaluate | <ul style="list-style-type: none"> To work out the value. | Evaluate: $7 \times 3 - 10 = 21 - 10$ $= 11$ |
| even numbers | <ul style="list-style-type: none"> A <i>whole number</i> that can be <i>divided</i> by two. Even numbers end with 0, 2, 4, 6 or 8. | 134 is an even number. 134 ✓ 431 is not an even number. 431 ✗ |

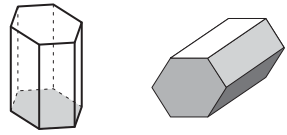
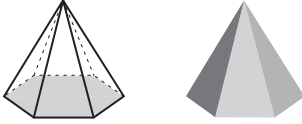

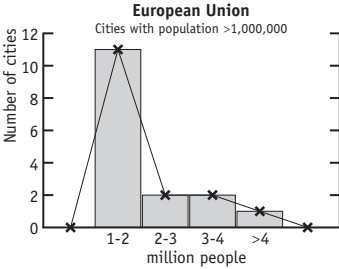

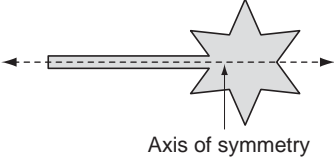
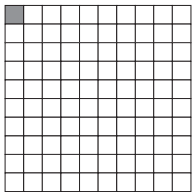
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| <p>event</p> | <ul style="list-style-type: none"> • A <i>set</i> of possible <i>outcomes</i> resulting from a particular <i>experiment</i>. Any <i>subset</i> of a <i>sample space</i>. | <p>A die is rolled - Event = {5, 6} i.e. either a 5 or a 6 may result</p>  |
| <p>expand</p> | <ul style="list-style-type: none"> • To <i>multiply</i> out parts of an <i>expression</i> thereby removing the <i>brackets</i>. | <p>Using $a = 1, b = 4, c = 3$, $a(b + c) = ab + ac$ $1 \times (4 + 3) = 1 \times 4 + 1 \times 3$ $= 7$</p> |
| <p>expense (money)</p> | <ul style="list-style-type: none"> • The cost involved. | <p>You buy 3 CDs at \$15 each. Your expense is \$45.</p> |
| <p>experiment</p> | <ul style="list-style-type: none"> • A controlled, repeatable process carried out in the study of <i>probability</i>. | <p>Tossing a coin is an experiment.</p>  |
| <p>exponent</p> | <ul style="list-style-type: none"> • A number placed to the upper right of a base number, showing how many times the base number is multiplied by itself. See <i>index</i>. | <p>$7^4 = 7 \times 7 \times 7 \times 7 = 2401$ The exponent is 4. It is read as 'seven to the power of four'.</p> |
| <p>exponential notation</p> | <ul style="list-style-type: none"> • Quantities in the form of a <i>base</i> number and an <i>exponent</i>. Exponential notation indicates what <i>power</i> is to be used and makes it easier to use multiple <i>factors</i>. See <i>index notation</i>. | <p>$3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3$ can be more easily written using exponential notation as 3^7.</p> |
| <p>expression</p> | <ul style="list-style-type: none"> • A <i>sequence</i> of numbers and/or <i>pronumerals</i> (letters) connected by <i>operation</i> signs. | <p>$42 \div 3 - 10$ $x + 2y$ $2x^2 - 2$] are examples of expressions</p> |
| <p>exterior angle</p> | <ul style="list-style-type: none"> • An <i>angle</i> that is the <i>supplement</i> of an <i>interior angle</i> of any <i>polygon</i>. |  |
| <p>faces of a solid</p> | <ul style="list-style-type: none"> • <i>Polygons</i> that join on their <i>edges</i> to form a <i>solid</i>. | <p>A rectangular prism has 6 rectangular faces.</p>  |
| <p>factor</p> | <ul style="list-style-type: none"> • When <i>whole numbers</i>, other than zero, are multiplied together, each number is a factor of the <i>product</i>. OR A whole number that divides exactly into another number. See <i>divisibility tests</i>. | <p>Because $1 \times 12 = 12$ $2 \times 6 = 12$ and $3 \times 4 = 12$ 1, 2, 3, 4, 6 and 12 are all factors of 12.</p> |

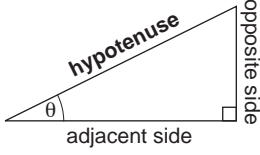

| | | |
|------------------------------|---|--|
| factor of enlargement | <ul style="list-style-type: none"> The amount by which an object is made bigger. | <p>The enlargement factor is 3.</p>  |
| factor of reduction | <ul style="list-style-type: none"> The amount by which an object is made smaller. | <p>The reduction factor is 3.</p>  |
| factor tree | <ul style="list-style-type: none"> A diagram that shows all possible <i>factors</i> on the different branches of a 'tree'. It is used to find the <i>prime factors</i> of a number. | <p>The prime factors of 12 are 2 and 3.</p>  |
| factorial (!) | <ul style="list-style-type: none"> The <i>product</i> of a <i>whole number multiplied</i> by every number between itself and 1. | $n! = n(n-1)(n-2) \dots 1$ $5! = 5(5-1)(5-2)(5-3)(5-4)$ $= 5 \times 4 \times 3 \times 2 \times 1$ $= 120$ |
| factorise | <ul style="list-style-type: none"> To write a number as a <i>product</i> of its <i>factors</i>. To write an <i>expression</i> as a product of two or more expressions. | <p>Factorise: $3x + 15 = 3(x + 5)$ because $3 = 3 \times 1$ and $15 = 3 \times 5$</p> |
| favourable outcome | <ul style="list-style-type: none"> The result that you are hoping or testing for. | <p>A die is rolled. Event = {numbers >2} Fav. outcomes = {3,4,5,6}</p> |
| fifth | <ul style="list-style-type: none"> The position after <i>fourth</i>. | <p>1st, 2nd, 3rd, 4th, 5th.....</p> |
| finite | <ul style="list-style-type: none"> With limits. Able to be counted. | <p>There are a finite number (12) of months in the year.</p> |
| first | <ul style="list-style-type: none"> Placed before anything else. | <p>The first athlete to cross the finish line won the gold medal.</p> |
| flip | <ul style="list-style-type: none"> To turn across a line so the result is a mirror image. See <i>reflection</i>. |  |
| formula | <ul style="list-style-type: none"> (pl. formulae) A mathematical rule, usually an <i>equation</i>, describing a relationship between two or more quantities. For example, the formula describing the <i>area</i> of a <i>circle</i> is $A = \pi r^2$ where A is the symbol for the area and r is the <i>symbol</i> for the <i>radius</i>. | <p>Find the area of a circle of radius 10 cm, using $\pi \approx 3.14$</p> <p>Use the formula $A = \pi r^2$ and substitute $r = 10$</p> $A = 3.14 \times 10^2$ $= 3.14 \times 100$ $= 314 \text{ cm}^2$ |

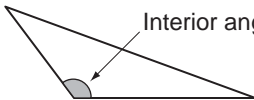
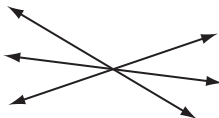
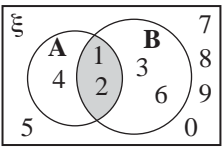
| fortnight | <ul style="list-style-type: none"> A <i>unit of time</i> equal to 2 whole <i>weeks</i> or 14 <i>days</i>. |  | | | | | | | | | | | | |
|------------------------|--|--|---------|-------|-----------|-----|-----|---|-----------|---|---|-----|---|---|
| forwards | <ul style="list-style-type: none"> In the <i>direction</i> of your front. The usual way. |  | | | | | | | | | | | | |
| fourth | <ul style="list-style-type: none"> The position after <i>third</i>. | 1st, 2nd, 3rd, 4th | | | | | | | | | | | | |
| fraction | <ul style="list-style-type: none"> Part of a group. Part of a whole. A number in the form $\frac{a}{b}$ ($b \neq 0$) where a is the <i>numerator</i> and b is the <i>denominator</i>. Fractions can be <i>proper fractions</i> or <i>improper fractions</i>. | <p>5 out of 8 dots are circled.</p>  $\frac{5}{8}$ <p>1 half of a whole orange.</p>  $\frac{1}{2}$ | | | | | | | | | | | | |
| frequency (f) | <ul style="list-style-type: none"> How often a particular item occurs in a set of <i>data</i>. | <p>The frequency of <i>a</i>'s in the set {<i>m, a, t, h, s, m, a, t, e</i>} is 2.</p> <p>TRAFFIC SURVEY</p> <table border="1"> <thead> <tr> <th>Vehicle</th> <th>Tally</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>car</td> <td> III</td> <td>8</td> </tr> <tr> <td>truck</td> <td> </td> <td>1</td> </tr> <tr> <td>bus</td> <td> </td> <td>2</td> </tr> </tbody> </table> <p>"The most frequent vehicle to pass by was a car."</p> | Vehicle | Tally | Frequency | car | III | 8 | truck | | 1 | bus | | 2 |
| Vehicle | Tally | Frequency | | | | | | | | | | | | |
| car | III | 8 | | | | | | | | | | | | |
| truck | | 1 | | | | | | | | | | | | |
| bus | | 2 | | | | | | | | | | | | |
| frequency table | <ul style="list-style-type: none"> Lists items to show the number of times each <i>event</i> or category occurs for a set of <i>data</i>. | <table border="1"> <tbody> <tr> <td>Score</td> <td>9</td> <td>6</td> <td>3</td> <td>1</td> <td>0</td> </tr> <tr> <td>Frequency</td> <td>3</td> <td>5</td> <td>4</td> <td>5</td> <td>6</td> </tr> </tbody> </table> | Score | 9 | 6 | 3 | 1 | 0 | Frequency | 3 | 5 | 4 | 5 | 6 |
| Score | 9 | 6 | 3 | 1 | 0 | | | | | | | | | |
| Frequency | 3 | 5 | 4 | 5 | 6 | | | | | | | | | |
| front view | <ul style="list-style-type: none"> What you see of an object looking from a frontal perspective. <i>Three-dimensional</i> objects have 3 views: front, top and side. |  | | | | | | | | | | | | |
| function (f) | <ul style="list-style-type: none"> A relationship or correspondence in which values of one <i>variable</i> determine the values of another. $f(x) = \text{rule}$ or $y = \text{rule}$. | $f(x) = x^2 - 4$ or $y = x^2 - 4$ See <i>rule</i> , <i>linear function</i> and <i>quadratic function</i> . | | | | | | | | | | | | |
| geometry | <ul style="list-style-type: none"> A branch of Mathematics studying the properties and relations of <i>lines</i>, surfaces and <i>solids</i>. |  | | | | | | | | | | | | |


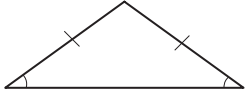


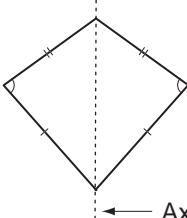
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| <p>gradient of a line</p> | <ul style="list-style-type: none"> An indication of slope determined by the vertical <i>rise</i> of a line (the change in the <i>y-axis</i> value) and the horizontal <i>run</i> of the line (the change in the <i>x-axis</i> value). | <p>If we have a straight line $y = mx + c$ then the gradient of the line is m (the coefficient of x).</p>  <p>Gradient = $\frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x}$ $= \frac{4}{2} = 2$</p> |
| <p>gram (g)</p> | <ul style="list-style-type: none"> A <i>unit of measurement for mass equal to 1000 milligrams.</i> | <p>250 g of butter.</p>  |
| <p>graph</p> | <ul style="list-style-type: none"> A diagram that shows a collection of <i>data</i>. | <p>Homework time</p>  |
| <p>graph of a function</p> | <ul style="list-style-type: none"> The picture obtained by plotting all the <i>points</i> of the <i>rule</i>. |  |
| <p>greater than (>)</p> | <ul style="list-style-type: none"> An <i>inequality symbol</i> showing which is bigger. | <p>$10 > 2$ means 10 is greater than 2.</p> |
| <p>grid reference</p> | <ul style="list-style-type: none"> A pair of letters and/or numbers that describe <i>location</i> within a grid. See also <i>coordinates</i>. | <p>The grid reference for the ball is D3.</p>  |


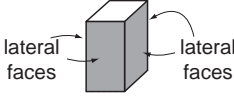
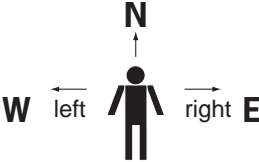
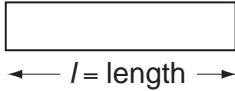
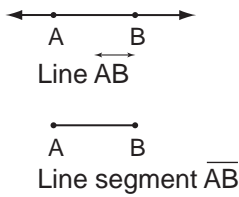
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| <p>GST (money)</p> | <ul style="list-style-type: none"> • An abbreviation for the Goods and Services Tax which is applied to certain purchases at a designated <i>rate</i>. | <p>The standard GST in Australia is 10%. If the price of an item is \$150 excluding GST then its GST inclusive price would be \$165.</p> |
| <p>half</p> | <ul style="list-style-type: none"> • (pl. halves) One of two <i>equal</i> parts expressed as a fraction. | <p>One half is one of 2 parts of one whole pizza.</p>  |
| <p>hectare (ha)</p> | <ul style="list-style-type: none"> • A <i>unit of area equal to 10 000 square metres</i> (100 m × 100 m). | <p>The field measures 2 hectares.</p>  |
| <p>hedron</p> | <ul style="list-style-type: none"> • (pl. hedra) Face. | <p>Polyhedron - A solid object that has multiple (poly) faces.</p>  |
| <p>height</p> | <ul style="list-style-type: none"> • The <i>vertical</i> distance from top to bottom. | <p>The height of the Taj Mahal is 76 m.</p>  |
| <p>height of a triangle</p> | <ul style="list-style-type: none"> • The height (<i>h</i>) is the <i>perpendicular</i> distance between the <i>base</i> (<i>b</i>) and the <i>vertex</i> opposite that side. |  |
| <p>hemisphere</p> | <ul style="list-style-type: none"> • One half of a <i>sphere</i>. |  |
| <p>hepta</p> | <ul style="list-style-type: none"> • Prefix meaning seven. | <p>See <i>heptagon</i></p> |
| <p>heptagon</p> | <ul style="list-style-type: none"> • A <i>polygon with 7 sides</i>. |  <p>Heptagon Regular heptagon</p> |
| <p>hexa</p> | <ul style="list-style-type: none"> • Prefix meaning six. | <p>See <i>hexagon</i></p> |
| <p>hexagon</p> | <ul style="list-style-type: none"> • A <i>polygon with 6 sides</i>. |  <p>Hexagon Regular hexagon</p> |

| | | | | | | | | | | | | | | | | |
|---|---|---|-----------|----------|------------|-------------|--------|------------|-------------|---|---|---|---|---|---|---|
| <p>hexagonal prism</p> | <ul style="list-style-type: none"> • A <i>three-dimensional</i> shape. Two identical <i>bases</i> are <i>hexagons</i>. Six <i>faces</i> are <i>rectangles</i>. |  | | | | | | | | | | | | | | |
| <p>hexagonal pyramid</p> | <ul style="list-style-type: none"> • A <i>three-dimensional</i> shape. The <i>base</i> is a <i>hexagon</i>. Six <i>faces</i> are <i>triangles</i>. |  | | | | | | | | | | | | | | |
| <p>hexahedron</p> | <ul style="list-style-type: none"> • A <i>regular solid</i>. Six <i>faces</i> are <i>square</i> (<i>cube</i>). |  | | | | | | | | | | | | | | |
| <p>highest common factor (HCF)</p> | <ul style="list-style-type: none"> • The largest number that is a <i>factor</i> of all the given numbers. | <p>Factors of 12: 1, 2, 3, 4, 6, 12 Factors of 30: 1, 2, 3, 5, 6, 10, 15, 30 12 and 30 have a HCF of 6.</p> | | | | | | | | | | | | | | |
| <p>histogram</p> | <ul style="list-style-type: none"> • A <i>vertical bar graph</i> used to represent the <i>frequency</i> of individual scores. |  | | | | | | | | | | | | | | |
| <p>horizontal line</p> | <ul style="list-style-type: none"> • <i>Parallel</i> to the horizon. |  | | | | | | | | | | | | | | |
| <p>horizontal symmetry</p> | <ul style="list-style-type: none"> • A shape has horizontal symmetry if an <i>axis of symmetry</i> is horizontal. |  | | | | | | | | | | | | | | |
| <p>hour (h)</p> | <ul style="list-style-type: none"> • A <i>unit of time equal</i> to 60 <i>minutes</i>. | <p>One hour is the amount of time between 1 o'clock and 2 o'clock.</p> | | | | | | | | | | | | | | |
| <p>hundreds</p> | <ul style="list-style-type: none"> • The <i>place value</i> between <i>tens</i> and <i>thousands</i>. | <p>1825.763 has 8 hundreds.</p> <table border="1" data-bbox="1182 1675 1536 1821"> <tr> <td>thousands</td> <td>hundreds</td> <td>tens</td> <td>units</td> <td>tenths</td> <td>hundredths</td> <td>thousandths</td> </tr> <tr> <td>1</td> <td>8</td> <td>2</td> <td>5</td> <td>7</td> <td>6</td> <td>3</td> </tr> </table> | thousands | hundreds | tens | units | tenths | hundredths | thousandths | 1 | 8 | 2 | 5 | 7 | 6 | 3 |
| thousands | hundreds | tens | units | tenths | hundredths | thousandths | | | | | | | | | | |
| 1 | 8 | 2 | 5 | 7 | 6 | 3 | | | | | | | | | | |
| <p>hundredth</p> | <ul style="list-style-type: none"> • One part out of 100 parts of one whole. |  | | | | | | | | | | | | | | |



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|---|--|--|-----------|----------|------------|-------------|--------|------------|-------------|---|---|---|---|---|---|---|
| <p>hundredths</p> | <ul style="list-style-type: none"> The <i>place value</i> between <i>tenths</i> and <i>thousandths</i>. | <p>1825.763 has 6 hundredths.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">thousands</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">hundreds</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">tens</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">units</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">tenths</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">hundredths</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">thousandths</td> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">8</td> <td style="text-align: center;">2</td> <td style="text-align: center;">5</td> <td style="text-align: center;">7</td> <td style="text-align: center;">6</td> <td style="text-align: center;">3</td> </tr> </table> | thousands | hundreds | tens | units | tenths | hundredths | thousandths | 1 | 8 | 2 | 5 | 7 | 6 | 3 |
| thousands | hundreds | tens | units | tenths | hundredths | thousandths | | | | | | | | | | |
| 1 | 8 | 2 | 5 | 7 | 6 | 3 | | | | | | | | | | |
| <p>hypotenuse</p> | <ul style="list-style-type: none"> The side <i>opposite</i> the <i>right angle</i> of a <i>right-angled triangle</i>. The longest side of a right-angled triangle. |  | | | | | | | | | | | | | | |
| <p>icosahedron</p> | <ul style="list-style-type: none"> A <i>regular solid</i> in which all twenty <i>faces</i> are <i>equilateral triangles</i>. |  | | | | | | | | | | | | | | |
| <p>identity element (for addition)</p> | <p>Rule: The <i>sum</i> of any number and zero equals that number.</p> <ul style="list-style-type: none"> Zero is the identity element for <i>addition</i>. | $a + 0 = a$ OR $0 + a = a$ $3 + 0 = 3$ $0 + 3 = 3$ | | | | | | | | | | | | | | |
| <p>identity element (for multiplication)</p> | <ul style="list-style-type: none"> Rule: The <i>product</i> of any number and one equals that number. One is the identity element for addition. | $a \times 1 = a$ OR $1 \times a = a$ $3 \times 1 = 3$ $1 \times 3 = 3$ | | | | | | | | | | | | | | |
| <p>improper fraction</p> | <ul style="list-style-type: none"> Any <i>fraction</i> in which the <i>numerator</i> is greater than or equal to the <i>denominator</i>. | $\frac{9}{8}$ the numerator is 9 the denominator is 8. $9 \geq 8$ so $\frac{9}{8}$ is an improper fraction. | | | | | | | | | | | | | | |
| <p>increase</p> | <ul style="list-style-type: none"> To make larger or grow in size. | <p>8 must increase by 5 to get to 13.</p> | | | | | | | | | | | | | | |
| <p>independent event</p> | <ul style="list-style-type: none"> An <i>event</i> that is totally unaffected by whether or not another event does or does not occur. | <p>The toss of the first coin has no effect on the probability of the resulting head or tail on the second toss.</p> | | | | | | | | | | | | | | |
| <p>index</p> | <ul style="list-style-type: none"> (pl. indices) A number placed to the upper right of a base number, showing how many times the base number is multiplied by itself. | $7^4 = 7 \times 7 \times 7 \times 7 = 2401$ The index is 4. It is read as 'seven to the power of four'. | | | | | | | | | | | | | | |
| <p>index notation</p> | <ul style="list-style-type: none"> Quantities in the form of a <i>base</i> number and an <i>index</i>. Index notation indicates what <i>power</i> is to be used and makes it easier to use multiple <i>factors</i>. | $3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3$ can be more easily written using index notation as 3^7 . | | | | | | | | | | | | | | |
| <p>inequality</p> | <ul style="list-style-type: none"> See <i>inequation</i>. | | | | | | | | | | | | | | | |


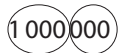
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| inequality symbols | <ul style="list-style-type: none"> • Symbols that tell us how the two objects or <i>expressions</i> in a mathematical sentence are not <i>equal</i>. | $<, >, \leq$ and \geq are inequality symbols. |
| inequation | <ul style="list-style-type: none"> • A mathematical sentence that shows the relative size of two objects or <i>expressions</i>. • Uses the <i>inequality symbols</i>: $<, >, \leq$ or \geq | $12 > x$ is an inequation. twelve is greater than x . |
| infinite (∞) | <ul style="list-style-type: none"> • Has no limits. Unable to be counted. • The symbol for infinity is (∞). | There are an infinite number of integers: $-3, -2, -1, 0, 1, 2, 3$ |
| integer (\mathbb{Z}) | <ul style="list-style-type: none"> • Any <i>negative number</i>, zero or <i>positive number</i>. | $-3, -2, -1, 0, 1, 2, 3$ are integers. 3.5 and $5\frac{2}{3}$ are not integers. |
| interquartile range (IQR) | <ul style="list-style-type: none"> • The <i>difference</i> between the <i>upper quartile</i> (UQ) and the <i>lower quartile</i> (LQ) of a set of <i>data</i>. • Used to describe the spread of a set of data. | Data: 2, 2, 3, 3, 4, 5, 7, 8, 9, 9 The lower quartile (LQ) is 3. The upper quartile (UQ) is 8. IQR = UQ - LQ = $8 - 3$ = 5 See <i>box-and-whisker plot</i> . |
| interest (money) | <ul style="list-style-type: none"> • The amount of money paid for the use of money. | See <i>simple interest</i> . |
| interior angle | <ul style="list-style-type: none"> • An <i>angle</i> inside a <i>polygon</i>. |  |
| intersecting lines | <ul style="list-style-type: none"> • <i>Lines</i> that meet at a <i>point</i>. |  |
| intersection of sets (\cap) | <ul style="list-style-type: none"> • <i>Elements</i> common to all sets. • The symbol for intersection is \cap. |  A intersection B $A \cap B = \{1, 2\}$ |
| invalid | <ul style="list-style-type: none"> • Not a logical result. | If $a = b$ and $a = 4$ saying $b = 5$ would be invalid. |
| inverse of a number | <ul style="list-style-type: none"> • That number which <i> Cancels </i>out a given number. • Can be called <i>opposite</i> for <i>addition</i> and <i>reciprocal</i> for <i>multiplication</i>. | The reciprocal of 3 is $\frac{1}{3}$. The opposite of 3 is -3 . |








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|---|------------------------|---|------------------------|---|------------------------|---|------------------------|--|---|----|-------|---|------------|-------------|---|----|-------------|--------------|----|-------|---|----|-------|
| inverse of an operation | | • The opposite operation. Operations that undo each other. | | | | + is opposite - × is opposite ÷ | | | | | | | | | | | | | | | | | |
| Operation + | Inverse Operation - | Operation - | Inverse Operation + | Operation × | Inverse Operation ÷ | Operation ÷ | Inverse Operation × | | | | | | | | | | | | | | | | |
| $x + 3 = 6$ $x + 3 - 3 = 6 - 3$ $x = 3$ | | $x - 3 = 6$ $x - 3 + 3 = 6 + 3$ $x = 9$ | | $3x = 6$ $\frac{3x}{3} = \frac{6}{3}$ $x = 2$ | | $\frac{x}{3} = 6$ $\frac{x}{3} \times 3 = 6 \times 3$ $x = 18$ | | | | | | | | | | | | | | | | | |
| invest (money) | | • To put some form of money at risk to make a <i>profit</i> . | | | | It is common to invest in shares. | | | | | | | | | | | | | | | | | |
| investment (money) | | • The act of laying out some form of money in an enterprise to make a <i>profit</i> . | | | |  | | | | | | | | | | | | | | | | | |
| irrational number | | <ul style="list-style-type: none"> • A <i>real number</i> that can be written as a non-repeating or non-terminating decimal but not as a <i>fraction</i>. • Not a <i>rational number</i>. | | | | $\pi, \varphi, e, \sqrt{2}, \sqrt{3}, \sqrt{5},$ 2.6293045632... $\cos 30^\circ$ $\tan 60^\circ$ | | | | | | | | | | | | | | | | | |
| isosceles triangle | | • A <i>triangle</i> with two sides of equal length. | | | |  | | | | | | | | | | | | | | | | | |
| Karnaugh map | | • A truth table that shows the combinations of <i>events</i> possible and their values. | | | | <table border="1" data-bbox="1150 1193 1441 1346"> <tr> <td></td> <td>B</td> <td>B'</td> <td>Total</td> </tr> <tr> <td>A</td> <td>$A \cap B$</td> <td>$A \cap B'$</td> <td>A</td> </tr> <tr> <td>A'</td> <td>$A' \cap B$</td> <td>$A' \cap B'$</td> <td>A'</td> </tr> <tr> <td>Total</td> <td>B</td> <td>B'</td> <td>ξ</td> </tr> </table> | | | B | B' | Total | A | $A \cap B$ | $A \cap B'$ | A | A' | $A' \cap B$ | $A' \cap B'$ | A' | Total | B | B' | ξ |
| | B | B' | Total | | | | | | | | | | | | | | | | | | | | |
| A | $A \cap B$ | $A \cap B'$ | A | | | | | | | | | | | | | | | | | | | | |
| A' | $A' \cap B$ | $A' \cap B'$ | A' | | | | | | | | | | | | | | | | | | | | |
| Total | B | B' | ξ | | | | | | | | | | | | | | | | | | | | |
| kilogram (kg) | | • A <i>unit of weight equal to 1000 grams</i> . | | | | My father weighs 75 kg.  | | | | | | | | | | | | | | | | | |
| kilometre (km) | | • A <i>unit of distance equal to 1000 metres</i> . | | | | The distance from Melbourne to Sydney is 900 km.  | | | | | | | | | | | | | | | | | |
| kite | | • A <i>quadrilateral</i> where one <i>diagonal</i> is an <i>axis of symmetry</i> . | | | |  <p>← Axis of symmetry</p> | | | | | | | | | | | | | | | | | |

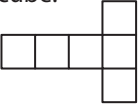
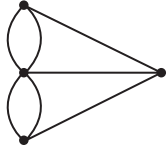




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|---|---|--|
| <p>largest to smallest</p> | <ul style="list-style-type: none"> • Ranking in order from the biggest to the littlest. |  |
| <p>lateral faces</p> | <ul style="list-style-type: none"> • The <i>vertical</i> surfaces on a solid. | <p>A rectangular prism has 4 lateral faces.</p>  |
| <p>lay-by (money)</p> | <ul style="list-style-type: none"> • To pay a <i>deposit</i> on an object which is held for the buyer until the full price is paid, usually in installments. | <p>Jacinta put the last air hockey table on lay-by. The full price was \$240. She paid 25% of the price or \$60 so that it would be held for her.</p> |
| <p>leap year</p> | <ul style="list-style-type: none"> • A <i>year</i> with 366 <i>days</i> that falls every <i>fourth</i> year and includes the 29th of February as the extra day. | <p>A leap year is divisible by 4. 2012 is a leap year.</p> |
| <p>left</p> | <ul style="list-style-type: none"> • The <i>direction</i> to the <i>west</i> of your body if you are facing <i>north</i>. |  |
| <p>length</p> | <ul style="list-style-type: none"> • The <i>distance</i> from one end to the other. • How long a shape is. |  |
| <p>less than (<)</p> | <ul style="list-style-type: none"> • An <i>inequality symbol</i> showing which is smaller. | <p>$2 < 10$ means that 2 is less than 10.</p> |
| <p>like terms</p> | <ul style="list-style-type: none"> • <i>Terms</i> that contain the same <i>pronumerals</i> raised to the same <i>power</i>. Only the number parts of like terms can be different. Like terms may be added, subtracted, multiplied or divided. <i>Unlike terms</i> may not be added or subtracted. However, they may be multiplied and divided. | <ul style="list-style-type: none"> • $7, \frac{6}{9}$ and -18 are like terms. • $6a, a$ and $-3a$ are like terms. • $xy^2, 5xy^2$ and $-3xy^2$ are like terms. • $7, 6a$ and $-4y^3$ are not like terms. • $5w, \frac{6}{w}$ and $-18w^2$ are not like terms. |
| <p>line (\overleftrightarrow{AB})</p> | <ul style="list-style-type: none"> • A set of <i>points</i> which extend without end in <i>opposite</i> directions. What is commonly called a line is actually a <i>segment</i> or part of a line. |  |

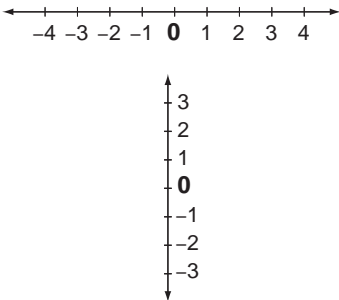
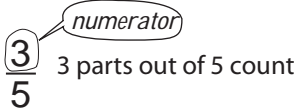

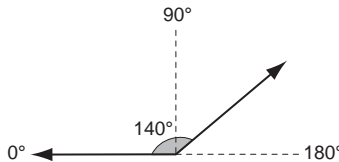
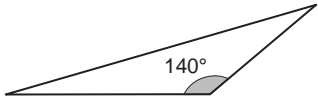

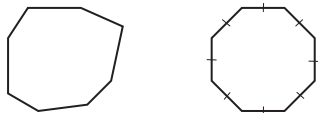
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| <p>line graph</p> | <ul style="list-style-type: none"> • A <i>graph</i> in which <i>points</i> representing <i>data</i> pairs are connected by <i>line segments</i>. It shows how quantities change over <i>time</i>. | |
| <p>line of symmetry</p> | <ul style="list-style-type: none"> • A <i>line</i> that divides a shape so that one <i>side</i> is a mirror image of the other. Both sides match exactly when folded. | |
| <p>linear equation</p> | <ul style="list-style-type: none"> • An algebraic <i>expression</i> in which the <i>variable</i> is in the first <i>power</i>. It can be solved for <i>x</i> and the value of <i>x</i> for which the <i>equation</i> is true is called the <i>solution</i>. The <i>graph</i> of a linear equation is always a straight <i>line</i>. See <i>linear function</i>. | <p>$4x - 2 = x$ is a linear equation.</p> |
| <p>linear function</p> | <ul style="list-style-type: none"> • A <i>function</i> in which the <i>variable</i> is only in the first <i>power</i> and has no <i>products</i>. It can be represented by an <i>equation</i> in the form of $y = ax + b$ where <i>a</i> and <i>b</i> are <i>real numbers</i>. The <i>graph</i> of this function is a straight <i>line</i>. | <p>Used to describe things like the movement of a car travelling at a constant speed.</p> <p>$y = x + 4$ $y = -4$ $3x - 4y = 0.5$ are linear functions.</p> |
| <p>linear rule</p> | <ul style="list-style-type: none"> • See <i>linear function</i>. | <p>$y = ax + b$</p> |
| <p>linear scale</p> | <ul style="list-style-type: none"> • A <i>scale</i> shown on a line. Compares the dimensions on a map to real life. | <p>Every cm on the map represents 2 km in real life.</p> |
| <p>litre (L)</p> | <ul style="list-style-type: none"> • A <i>unit</i> of <i>capacity</i> equal to 1000 <i>millilitres</i>. | <p>1 litre of milk.</p> |
| <p>location</p> | <ul style="list-style-type: none"> • The exact place, where something is situated. | |
| <p>logic statement</p> | <ul style="list-style-type: none"> • A proposition that can be classified as true or false without ambiguity. Words like 'some', 'all' or 'no' tend to bind the <i>variables</i> in a logical proposition. | <p>'It is a cloudy day' is a logic statement. SO 'Some days are cloudy' is a logical proposition.</p> |

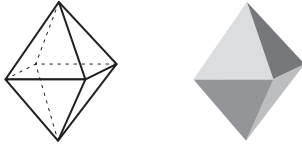
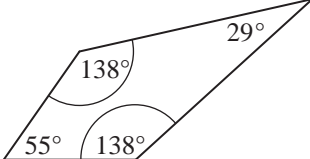
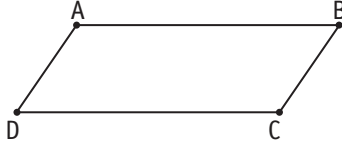
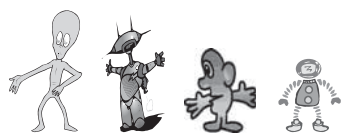
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|--|--|---|---|---|---|---|---|---|---|---|---|
| <p>longest</p> | <ul style="list-style-type: none"> • Having the biggest <i>length</i>. | <p>The record length for the reticulated python of S-E Asia is 10 m. The specimen was found in Celebes, Indonesia in 1912.</p>  | | | | | | | | | |
| <p>loss (money)</p> | <ul style="list-style-type: none"> • A reduction in the value of an investment. • Expenses > Revenue | <p>Revenue from a business activity is \$20. If the expenses are \$25 then the loss would be \$5.</p> | | | | | | | | | |
| <p>lower quartile</p> | <ul style="list-style-type: none"> • Is the <i>median</i> of the lower half of scores in a set of <i>data</i>. • 25% of the data lies beneath this number. | <p>Data: 2, 2, 3, 3, 4, 5, 7, 8, 9, 9 The lower quartile (LQ) is 3. See <i>box-and-whisker plot</i>.</p> | | | | | | | | | |
| <p>lowest common denominator</p> | <ul style="list-style-type: none"> • The <i>lowest common multiple</i> of the <i>denominators</i> of two or more <i>fractions</i>. | <p>The lowest common denominator of $\frac{2}{3}$ and $\frac{4}{5}$ is the lowest common multiple of 3 and 5, which is 15.</p> | | | | | | | | | |
| <p>lowest common multiple (LCM)</p> | <ul style="list-style-type: none"> • The smallest of the common <i>multiples</i> of two or more non-zero <i>whole numbers</i>. | <p>The lowest common multiple of 6 and 9 is the smallest of their common multiples 18, 36, 54 ..., so the LCM of 6 and 9 is 18.</p> | | | | | | | | | |
| <p>magic square</p> | <ul style="list-style-type: none"> • A square grid filled with numbers. • The <i>sum</i> of the numbers in every <i>row</i>, <i>column</i> and <i>diagonal</i> is the same. | <table border="1" style="display: inline-table; margin-right: 10px;"> <tr><td>4</td><td>9</td><td>2</td></tr> <tr><td>3</td><td>5</td><td>7</td></tr> <tr><td>8</td><td>1</td><td>6</td></tr> </table> <p>Rows: 4 + 9 + 2 = 15 3 + 5 + 7 = 15 8 + 1 + 6 = 15 Columns: 4 + 3 + 8 = 15 9 + 5 + 1 = 15 2 + 7 + 6 = 15 Diagonals: 4 + 5 + 6 = 15 2 + 5 + 8 = 15</p> | 4 | 9 | 2 | 3 | 5 | 7 | 8 | 1 | 6 |
| 4 | 9 | 2 | | | | | | | | | |
| 3 | 5 | 7 | | | | | | | | | |
| 8 | 1 | 6 | | | | | | | | | |
| <p>map</p> | <ul style="list-style-type: none"> • A diagram of a region showing its position in the world. | <p style="text-align: center;">South Pacific</p>  | | | | | | | | | |
| <p>mass</p> | <ul style="list-style-type: none"> • The amount of matter that an object contains. It is measured in <i>units</i> like grams (g) and kilograms (kg). Often called weight, but not the same. | <p>The mass of 3 oranges is about 1 kg. The weight of an object changes according to the gravity. A packet of butter would be weightless in space, even though it still has the same mass as on earth.</p> | | | | | | | | | |

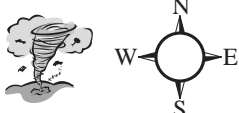
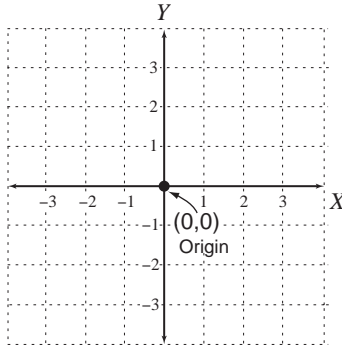
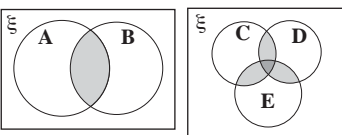

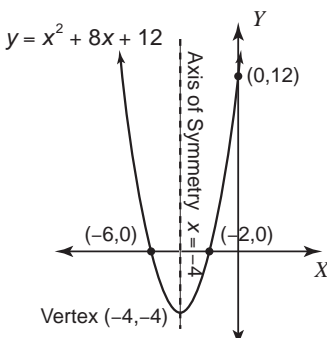
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|------------------------|--|---|
| maximum | <ul style="list-style-type: none"> The highest value. | <p>The maximum speed in a residential area is 50 kilometres per hour.</p>  |
| mean | <ul style="list-style-type: none"> Or <i>average</i>, is the total of all scores divided by how many scores there are. To calculate the mean: <ol style="list-style-type: none"> <i>Add</i> up the values. <i>Divide</i> the total by the number of values. | $\begin{array}{r} 4 \\ 6 \\ 5 \\ + 9 \\ \hline 24 \end{array}$ <p>$24 \div 4 = 6$ The average or mean of 4, 6, 5 and 9 is 6.</p> |
| median | <ul style="list-style-type: none"> The middle value of an ordered <i>set</i> of values. If there is an <i>even number</i> of values then the median is the <i>average</i> of the two middle numbers. | <p>Data: 2, 5, 6, 8, 9 Median is 6</p> <p>Data: 2, 3, 5, 6, 8, 8 Average the two middle values: $5 + 6 = 11$ $11 \div 2 = 5.5$ Median is 5.5</p> |
| megalitre (ML) | <ul style="list-style-type: none"> A <i>unit of capacity equal</i> to 1 000 000 litres. | Water tanks can hold 1 ML. |
| metre (m) | <ul style="list-style-type: none"> A <i>unit of length equal</i> to 100 centimetres. | Track distances are measured in metres. |
| millilitre (mL) | <ul style="list-style-type: none"> A <i>unit of capacity</i>. 1000 millilitres is <i>equal</i> to 1 litre. | Medicines are measured in mL. |
| millimetre (mm) | <ul style="list-style-type: none"> A <i>unit of length</i>. 1000 millimetres is <i>equal</i> to 1 metre. | Timber length is measured in millimetres. |
| million | <ul style="list-style-type: none"> A thousand thousands. |  |
| minimum | <ul style="list-style-type: none"> The lowest value. | The minimum temperature reached yesterday was 25°C. |
| minus (-) | <ul style="list-style-type: none"> Another word for <i>subtract</i>. To take away. | \$20 minus \$5 is \$15. $20 - 5 = 15$ |
| minute (min) | <ul style="list-style-type: none"> A <i>unit of time equal</i> to 60 seconds. | One minute has 60 seconds. |
| mixed number | <ul style="list-style-type: none"> The <i>sum</i> of a <i>whole number</i> and a <i>fraction</i> less than one. | $3\frac{5}{7}$ is a mixed number. |

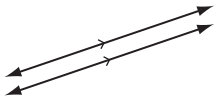
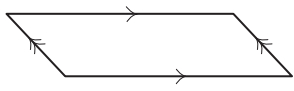

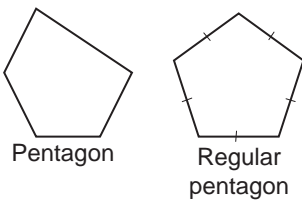
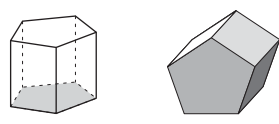
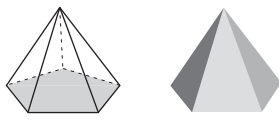
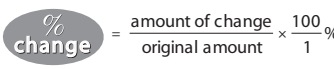
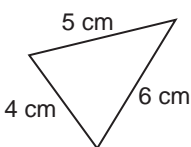
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|---|--|---|-------|-------|---|-------|-------|--|--|--|---|---|---|---|---|---|---------|---|-------|-------|-------|-------|-------|-------|---|-------|-------|-------|-------|-------|-------|---|-------|-------|-------|-------|-------|-------|
| mode | <ul style="list-style-type: none"> The most frequent score in a set of data. | Data: 2, 3, 5, 7, 7, 7, 8, 8, 9 Mode is 7 as 7 occurs 3 times. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| monomial | <ul style="list-style-type: none"> A <i>polynomial</i> with one <i>term</i>. | $2, -3gh, 5x^2$ are all monomials. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| month | <ul style="list-style-type: none"> A <i>unit of time equal to 28, 29, 30 or 31 days</i>. | There are 12 months in a year starting with January.  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| morning | <ul style="list-style-type: none"> The early part of the <i>day</i> ending at 12 noon. |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| multiple | <ul style="list-style-type: none"> A multiple of a <i>whole number</i> is the <i>product</i> of that number with any non-zero whole number. | The multiples of 2 are 2, 4, 6, 8, 10, $2 \times 1 = 2$ $2 \times 2 = 4$ $2 \times 3 = 6$ etc. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| multiple events | <ul style="list-style-type: none"> See <i>independent events</i>. | <table border="1"> <tr> <td colspan="2" rowspan="2"></td> <td colspan="6">Die </td> </tr> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> </tr> <tr> <td rowspan="3">Spinner</td> <td>1</td> <td>(1,1)</td> <td>(1,2)</td> <td>(1,3)</td> <td>(1,4)</td> <td>(1,5)</td> <td>(1,6)</td> </tr> <tr> <td>2</td> <td>(2,1)</td> <td>(2,2)</td> <td>(2,3)</td> <td>(2,4)</td> <td>(2,5)</td> <td>(2,6)</td> </tr> <tr> <td>3</td> <td>(3,1)</td> <td>(3,2)</td> <td>(3,3)</td> <td>(3,4)</td> <td>(3,5)</td> <td>(3,6)</td> </tr> </table> | | | Die  | | | | | | 1 | 2 | 3 | 4 | 5 | 6 | Spinner | 1 | (1,1) | (1,2) | (1,3) | (1,4) | (1,5) | (1,6) | 2 | (2,1) | (2,2) | (2,3) | (2,4) | (2,5) | (2,6) | 3 | (3,1) | (3,2) | (3,3) | (3,4) | (3,5) | (3,6) |
| | | Die  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 1 | 2 | 3 | 4 | 5 | 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Spinner | 1 | (1,1) | (1,2) | (1,3) | (1,4) | (1,5) | (1,6) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 2 | (2,1) | (2,2) | (2,3) | (2,4) | (2,5) | (2,6) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 3 | (3,1) | (3,2) | (3,3) | (3,4) | (3,5) | (3,6) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| multiplication | <ul style="list-style-type: none"> An <i>operation</i> where a number is added to itself a number of times. | $2 + 2 + 2 + 2 + 2 = 10$ or $5 \times 2 = 10$  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| multiplication rule of probability | <ul style="list-style-type: none"> A method for finding the <i>likelihood</i> that both of two <i>events</i> occur. | Multiplication rule for independent events: $P(A \text{ and } B) = P(A) \times P(B)$ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| multiply (\times) | <ul style="list-style-type: none"> To find total in a number of groups. | Three lots of 2 cows is 6. $3 \times 2 = 6$ or $2 + 2 + 2 = 6$  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| mutually exclusive events | <ul style="list-style-type: none"> Two <i>events</i> that have no outcomes in common. | A 6 sided die is rolled once. Event A: Roll a 2 Event B: Roll a 3 Events A and B are mutually exclusive since they both can't happen at the same time. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| natural number (\mathbb{N}) | <ul style="list-style-type: none"> A counting number from 1 to <i>infinity</i>. | 1, 2, 3, 4, 5..... ∞ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

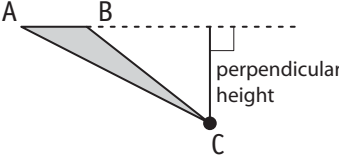
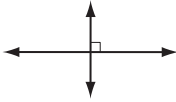
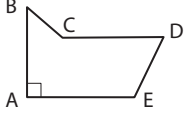











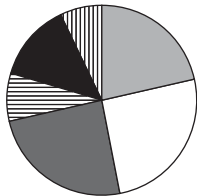
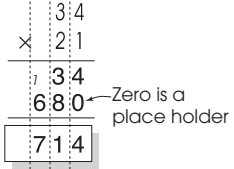
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| negative number | <ul style="list-style-type: none"> A number that is <i>less than</i> zero. | -1, -2, -3, -4, -5, ... are negative numbers. |
| net | <ul style="list-style-type: none"> The pattern cut out to form a <i>3D</i> shape. | Possible net of a cube.  |
| network | <ul style="list-style-type: none"> A figure made up of <i>vertices</i> connected by non-intersecting paths or <i>arcs</i>. Networks are not to <i>scale</i>. | Euler's bridges of Königsberg is a famous network where the land is shown as vertices and the bridges are the paths.  |
| ninth | <ul style="list-style-type: none"> The <i>position</i> after <i>eighth</i>. | 1st, 2nd, 3rd, 4th, 5th, 6th, 7th, 8th, 9th |
| nona | <ul style="list-style-type: none"> Prefix meaning nine. | See <i>nonagon</i> |
| nonagon | <ul style="list-style-type: none"> A <i>polygon</i> with 9 sides. |  Nonagon Regular nonagon |
| non-exclusive events | <ul style="list-style-type: none"> <i>Events</i> that have outcomes in common. | A card is dealt from a pack. Event A: deal a club Event B: deal an even number A and B are non-exclusive events since they can occur at the same time: $P(A \text{ or } B) = P(A) + P(B) - P(A \& B)$ |
| non-linear function | <ul style="list-style-type: none"> Any relationship that is not linear. A <i>polynomial function</i> where the <i>variable</i> is in the second <i>power</i> or higher. | $y = x^3 - 7$ is a non-linear function. |
| non-recurring decimal | <ul style="list-style-type: none"> A <i>finite</i> decimal number. | 23.375 is a non-recurring decimal. |
| north | <ul style="list-style-type: none"> A <i>compass direction</i>. |  |
| north-east | <ul style="list-style-type: none"> A <i>compass direction</i>. |  |
| north-west | <ul style="list-style-type: none"> A <i>compass direction</i>. |  |


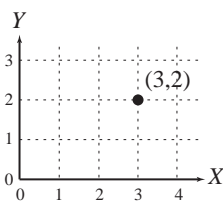


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| <p>null set (\emptyset or $\{\}$)</p> | <ul style="list-style-type: none"> • A <i>set</i> with no <i>elements</i> also called an empty set. | <p>$P = \{\text{people 200 years old}\}$ is a null set.</p> <p>$O = \{\text{odd numbers}\}$ $E = \{\text{even numbers}\}$ $O \cap E = \emptyset$</p> |
| <p>number line</p> | <ul style="list-style-type: none"> • An evenly marked <i>line</i> that shows position of numbers. • <i>Points</i> are marked with numbers in <i>ascending order</i> from left to right (horizontal number line) or from bottom to top (vertical number line). • Zero represents the <i>origin</i> of a number line. |  |
| <p>number plane</p> | <ul style="list-style-type: none"> • See <i>coordinate plane</i>. | |
| <p>number sentence</p> | <ul style="list-style-type: none"> • A sentence using numbers and <i>operations</i> instead of words. | <p>"Mary had four cats and two dogs. How many pets did she have?" Number sentence: $4 + 2 = 6$</p> |
| <p>numeral</p> | <ul style="list-style-type: none"> • A symbol used to represent a number. | <p>Arabic numerals: 1, 2, 3, 4, 5 Roman numerals: I, II, III, IV, V</p> |
| <p>numerator</p> | <ul style="list-style-type: none"> • The number above the fraction bar in a <i>fraction</i>. • The number of parts that are counted. |  |
| <p>oblique line</p> | <ul style="list-style-type: none"> • A line at an <i>angle</i> to the horizon. |  |
| <p>obtuse angle</p> | <ul style="list-style-type: none"> • An <i>angle</i> measuring greater than 90° and less than 180°. |  |
| <p>obtuse-angled triangle</p> | <ul style="list-style-type: none"> • A triangle with one <i>angle</i> measuring greater than 90° and less than 180°. |  |
| <p>octa</p> | <ul style="list-style-type: none"> • Prefix meaning eight. | <p>An octopus has 8 legs.</p>  |
| <p>octagon</p> | <ul style="list-style-type: none"> • A <i>polygon</i> with 8 sides. |  <p>Octagon Regular octagon</p> |

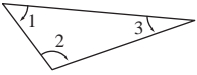





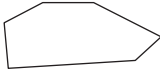

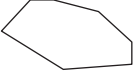





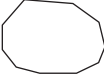

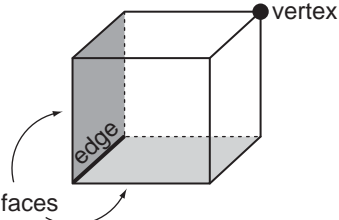
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| <p>octahedron</p> | <ul style="list-style-type: none"> • A <i>solid</i> with eight <i>faces</i>. • A regular octahedron has faces that are all <i>equilateral triangles</i>. |  |
| <p>odd numbers</p> | <ul style="list-style-type: none"> • A <i>whole number</i> that is not <i>divisible</i> by 2. | <p>Odd numbers end with 1, 3, 5, 7 or 9.</p> |
| <p>of</p> | <ul style="list-style-type: none"> • Seen in context like ‘a <i>fraction of</i> a number’, it means to <i>multiply</i>. | <p>A quarter of 100 means $\frac{1}{4}$ of 100, or $\frac{1}{4} \times 100 = 25$</p> |
| <p>once</p> | <ul style="list-style-type: none"> • On one occasion. | <p>Just this time!</p> |
| <p>operation</p> | <ul style="list-style-type: none"> • A mathematical process performed according to certain <i>rules</i>. | <p>There are four basic operations in arithmetic:</p> <p>addition $3 + 12$ subtraction $3 - 1$ multiplication 1×5 division $6 \div 3$</p> <p>There are many complex operations like: sine 30°, $\sqrt{9}$ and $\log_{10} 100, 5^4$.</p> |
| <p>opposite angles</p> | <ul style="list-style-type: none"> • Angles across from each other in a shape. | <p>One pair of opposite angles are equal in a kite.</p>  |
| <p>opposite sides</p> | <ul style="list-style-type: none"> • Sides across from each other in a shape. | <p>Side \overline{AB} is opposite to side \overline{CD} Side \overline{AD} is opposite to side \overline{BC}</p>  |
| <p>opposites</p> | <ul style="list-style-type: none"> • Two numbers with the same distance to the origin but with different signs. | <p>The opposite of +4 is -4.</p> |
| <p>order</p> | <ul style="list-style-type: none"> • Placing a group in a special arrangement. | <p>The aliens are arranged in order of height.</p>  |


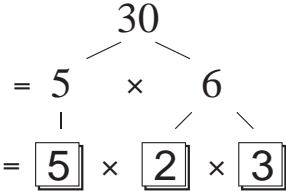
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| <p>order of operations</p> | <ul style="list-style-type: none"> The order of doing <i>operations</i> is: <ol style="list-style-type: none"> <i>Simplify</i> inside all <i>brackets</i>. <i>Evaluate powers</i> and <i>square roots</i>. Calculate \times and \div from left to right. Calculate $+$ and $-$ from left to right. | <p>Calculate $4 + 3^2 \times (6 - 2)$ by</p> <ol style="list-style-type: none"> $4 + 3^2 \times (6 - 2)$ $= 4 + 3^2 \times 4$ $= 4 + 9 \times 4$ $= 4 + 36$ $= 40$ |
| <p>ordinal numbers</p> | <ul style="list-style-type: none"> A <i>whole number</i> that shows position. | <p>1st, 2nd, 3rd, 4th, 5th..... are ordinal numbers.</p> |
| <p>orientation</p> | <ul style="list-style-type: none"> Position relative to <i>direction</i>. | <p>The tornado is coming from the west.</p>  |
| <p>origin</p> | <ul style="list-style-type: none"> The point of <i>coordinates</i> (0,0) on a <i>coordinate plane</i>. |  |
| <p>outcome</p> | <ul style="list-style-type: none"> Result of an event. | <p>The outcome (result) of tossing a coin was to turn up a head.</p> |
| <p>overlapping sets</p> | <ul style="list-style-type: none"> <i>Sets</i> that share one or more common <i>elements</i>. |  |
| <p>pair</p> | <ul style="list-style-type: none"> Two together. |  |
| <p>palindrome</p> | <ul style="list-style-type: none"> A number with 2 or more digits that reads the same <i>forwards</i> and <i>backwards</i>. | <p>44 or 6116 are palindromic numbers.</p> |
| <p>parabola</p> | <ul style="list-style-type: none"> The shape of the <i>graph</i> represented by a <i>quadratic function</i>. | <p>A parabola can describe the flight of a ball.</p>  |


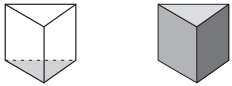

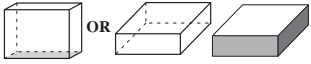
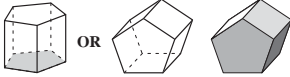
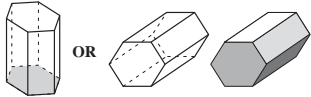
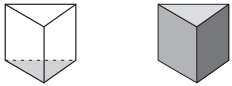

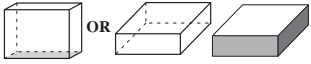
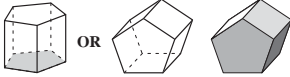
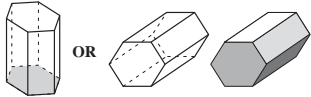
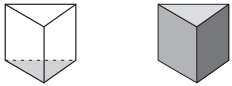

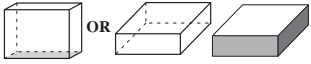
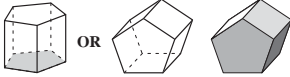
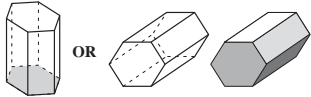
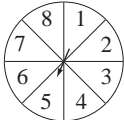
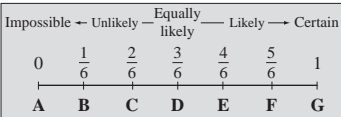
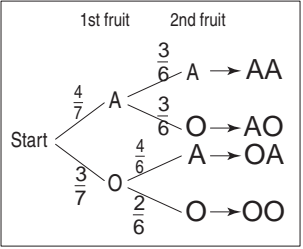
| | | |
|----------------------------------|---|---|
| <p>parallel lines</p> | <ul style="list-style-type: none"> • <i>Lines</i> in the same <i>plane</i> that never cross over. They are marked with matching arrows. |  |
| <p>parallelogram</p> | <ul style="list-style-type: none"> • A special <i>quadrilateral</i>. <i>Opposite sides are parallel lines.</i> <i>Opposite sides are equal in length.</i> |  |
| <p>pattern</p> | <ul style="list-style-type: none"> • Numbers or objects that are arranged following a <i>rule</i>. |  |
| <p>penta</p> | <ul style="list-style-type: none"> • Prefix meaning five. | <p>See <i>pentagon</i></p> |
| <p>pentagon</p> | <ul style="list-style-type: none"> • A <i>polygon</i> with 5 sides. |  <p>Pentagon Regular pentagon</p> |
| <p>pentagonal prism</p> | <ul style="list-style-type: none"> • A <i>three-dimensional</i> shape. Two identical, <i>parallel bases</i> are <i>pentagons</i>. Five <i>faces</i> are <i>rectangles</i>. |  |
| <p>pentagonal pyramid</p> | <ul style="list-style-type: none"> • A <i>three-dimensional</i> shape. <i>Base</i> is a <i>pentagon</i>. Five <i>faces</i> are <i>triangles</i>. |  |
| <p>per</p> | <ul style="list-style-type: none"> • For each. • Can be written as a forward slash (/). | <p>5 kilometres per hour or 5 km/h means 5 km travelled for each hour.</p> |
| <p>percentage</p> | <ul style="list-style-type: none"> • Out of 100. • ‘Per’ means for each, ‘cent’ means 100. | $59\% = \frac{59}{100} = 0.59$ |
| <p>percentage change</p> | <ul style="list-style-type: none"> • The amount of <i>increase</i> or <i>decrease</i> calculated as a <i>percentage</i>. |  |
| <p>perfect square</p> | <ul style="list-style-type: none"> • Any number that is the result of multiplying two <i>rational numbers</i> together. | <p>0, 1, 4, 9, 16, 25, $\frac{1}{25}$, $\frac{4}{9}$ etc. are all perfect squares.</p> |
| <p>perimeter</p> | <ul style="list-style-type: none"> • The <i>distance</i> around the outside of a <i>shape</i>. | <p>Add the length of all sides. Perimeter = 4 + 5 + 6 = 15 cm</p>  |


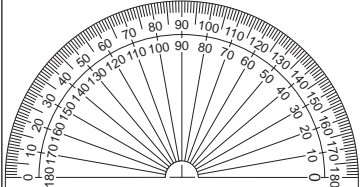
| | | | | | | | | |
|------------------------------|---|---|------|---|------|---|------|---|
| perpendicular height | <ul style="list-style-type: none"> The straight <i>line</i> distance between a <i>vertex</i> and the <i>opposite side</i> in a <i>2D shape</i>. |  | | | | | | |
| perpendicular lines | <ul style="list-style-type: none"> Lines on a <i>plane</i> that <i>intersect</i> to form a <i>right angle</i>. |  | | | | | | |
| perpendicular sides | <ul style="list-style-type: none"> Sides on a <i>shape</i> that are at <i>right angles</i> to each other. | <p>\overline{AB} is perpendicular to \overline{AE}.</p>  | | | | | | |
| perspective | <ul style="list-style-type: none"> The appearance of objects affected by size and <i>position</i>. |  | | | | | | |
| pi (π) | <ul style="list-style-type: none"> The <i>ratio</i> of the <i>circumference</i> of a <i>circle</i> to its <i>diameter</i>. <p>The diameter of a circle wraps around the circle approximately 3.14 times.</p> | <p>3.14 or $\frac{22}{7}$ is the approximate value of π.</p> <p>Pi is an infinite number.</p> <p>$\pi = 3.14159\ 26535\ 89793\dots$</p> | | | | | | |
| pictograph | <ul style="list-style-type: none"> A <i>graph</i> that uses pictures or symbols to represent <i>data</i>. | <p>Toy Sales in Winter  = 50 toys</p> <table border="1"> <tr> <td>June</td> <td></td> </tr> <tr> <td>July</td> <td></td> </tr> <tr> <td>Aug.</td> <td></td> </tr> </table> | June |  | July |  | Aug. |  |
| June |  | | | | | | | |
| July |  | | | | | | | |
| Aug. |  | | | | | | | |
| pie graph | <ul style="list-style-type: none"> A <i>graph</i> that represents <i>data</i> as a <i>fraction</i> or <i>percentage</i> of a <i>circle</i>. | <p>Nobel Prizes Won by the UK up to 2004 (Total of 98)</p>  <ul style="list-style-type: none"> Chemistry Medicine / Physiology Literature Peace Economics Physics | | | | | | |
| place holder | <ul style="list-style-type: none"> Minds a spot in a number. | <p>Zeros are used as place holders in long multiplication algorithms.</p>  | | | | | | |

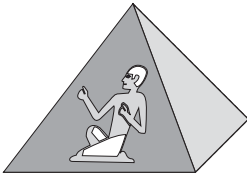

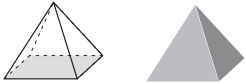



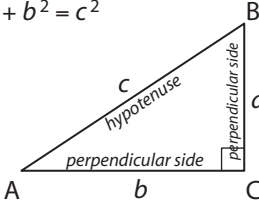
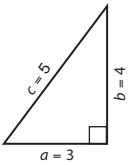
| <p>place value</p> | <ul style="list-style-type: none"> Value according to position in a number. | <p>954 5 is in the tens place 5 has a value of 50.</p> | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|-----------|-----------------------|-------------------|-----------|---------------|----------------|-----------------|------------------|--------|------------|-------------|-----------|---------|--------|-------|-----|----|---|---|----------------|-----------------|------------------|
| <table border="1"> <thead> <tr> <th>millions</th> <th>hundreds of thousands</th> <th>tens of thousands</th> <th>thousands</th> <th>hundreds</th> <th>tens</th> <th>units</th> <th>decimal point</th> <th>tenths</th> <th>hundredths</th> <th>thousandths</th> </tr> </thead> <tbody> <tr> <td>1 000 000</td> <td>100 000</td> <td>10 000</td> <td>1 000</td> <td>100</td> <td>10</td> <td>1</td> <td>•</td> <td>$\frac{1}{10}$</td> <td>$\frac{1}{100}$</td> <td>$\frac{1}{1000}$</td> </tr> </tbody> </table> | | | millions | hundreds of thousands | tens of thousands | thousands | hundreds | tens | units | decimal point | tenths | hundredths | thousandths | 1 000 000 | 100 000 | 10 000 | 1 000 | 100 | 10 | 1 | • | $\frac{1}{10}$ | $\frac{1}{100}$ | $\frac{1}{1000}$ |
| millions | hundreds of thousands | tens of thousands | thousands | hundreds | tens | units | decimal point | tenths | hundredths | thousandths | | | | | | | | | | | | | | |
| 1 000 000 | 100 000 | 10 000 | 1 000 | 100 | 10 | 1 | • | $\frac{1}{10}$ | $\frac{1}{100}$ | $\frac{1}{1000}$ | | | | | | | | | | | | | | |
| <p>plane</p> | <ul style="list-style-type: none"> A flat surface. |  | | | | | | | | | | | | | | | | | | | | | | |
| <p>plot</p> | <ul style="list-style-type: none"> To mark a <i>point</i> on a <i>coordinate plane</i>. | <p>The point of coordinate (3,2)</p>  | | | | | | | | | | | | | | | | | | | | | | |
| <p>plus (+)</p> | <ul style="list-style-type: none"> Another word for <i>addition</i>. To add. | <p>2 cows plus 3 cows gives you 5 cows.</p> <p>$2 + 3 = 5$</p>  | | | | | | | | | | | | | | | | | | | | | | |
| <p>pm (post meridiem)</p> | <ul style="list-style-type: none"> The <i>time</i> from midday to midnight. | <p>Every night Jimmy starts reading at 9 pm.</p>  | | | | | | | | | | | | | | | | | | | | | | |
| <p>point</p> | <ul style="list-style-type: none"> A position in space represented by a dot. | <p>• P</p> | | | | | | | | | | | | | | | | | | | | | | |

| <p>polygon</p> | <ul style="list-style-type: none"> • A closed <i>two-dimensional</i> shape for which all sides are line segments. 3 or more <i>sides</i> and <i>angles</i>. | <p>'Poly' means many and 'gon' means angle. Example: A triangle has 3 angles.</p> | | | | | | | | | | | | |
|--|---|---|----------------------------------|-------------------|----------|----------|---|----------------------|----------|---|-----------------------------------|-----------|---|--|
| <p>polygon (many angles)</p> | <p>regular polygon (all sides and all angles are equal)</p> | <p>Number of Sides</p> | <p>Number of Interior angles</p> | | | | | | | | | | | |
| <p><u>Triangle</u> 3 angles</p> |  | <p><u>Equilateral triangle</u></p>  | <p>3</p> | <p>3</p> | | | | | | | | | | |
| <p><u>Quadrilateral</u> 4 angles</p> |  | <p><u>Square</u></p>  | <p>4</p> | <p>4</p> | | | | | | | | | | |
| <p><u>Pentagon</u> 5 angles</p> |  | <p><u>Regular pentagon</u></p>  | <p>5</p> | <p>5</p> | | | | | | | | | | |
| <p><u>Hexagon</u> 6 angles</p> |  | <p><u>Regular hexagon</u></p>  | <p>6</p> | <p>6</p> | | | | | | | | | | |
| <p><u>Heptagon</u> 7 angles</p> |  | <p><u>Regular heptagon</u></p>  | <p>7</p> | <p>7</p> | | | | | | | | | | |
| <p><u>Octagon</u> 8 angles</p> |  | <p><u>Regular octagon</u></p>  | <p>8</p> | <p>8</p> | | | | | | | | | | |
| <p><u>Nonagon</u> 9 angles</p> |  | <p><u>Regular nonagon</u></p>  | <p>9</p> | <p>9</p> | | | | | | | | | | |
| <p><u>Decagon</u> 10 angles</p> |  | <p><u>Regular decagon</u></p>  | <p>10</p> | <p>10</p> | | | | | | | | | | |
| <p>polyhedron</p> | <ul style="list-style-type: none"> • A <i>three-dimensional</i> shape. Four or more <i>faces</i>. Described by their <i>faces</i>, <i>edges</i> and <i>vertices</i>. | <p>'Poly' means many and 'hedron' means faces. Example: A hexahedron has 6 faces.</p>  | | | | | | | | | | | | |
| <p>polynomial</p> | <ul style="list-style-type: none"> • The <i>sum</i> or <i>difference</i> of <i>terms</i> which have <i>variables</i> raised to <i>positive integer powers</i> and which have <i>real coefficients</i>. | <table border="1"> <thead> <tr> <th>Type of polynomial</th> <th># of unlike terms</th> <th>Examples</th> </tr> </thead> <tbody> <tr> <td>Monomial</td> <td>1</td> <td>-7 ab $6x^2$</td> </tr> <tr> <td>Binomial</td> <td>2</td> <td>$7 + y$ $gh - 4$ $2s^2 + s$</td> </tr> <tr> <td>Trinomial</td> <td>3</td> <td>$x + y + 4$ $r^2 - 6s^3 + 4t$ $mn + 5 - 2m^2n$</td> </tr> </tbody> </table> | Type of polynomial | # of unlike terms | Examples | Monomial | 1 | -7 ab $6x^2$ | Binomial | 2 | $7 + y$ $gh - 4$ $2s^2 + s$ | Trinomial | 3 | $x + y + 4$ $r^2 - 6s^3 + 4t$ $mn + 5 - 2m^2n$ |
| Type of polynomial | # of unlike terms | Examples | | | | | | | | | | | | |
| Monomial | 1 | -7 ab $6x^2$ | | | | | | | | | | | | |
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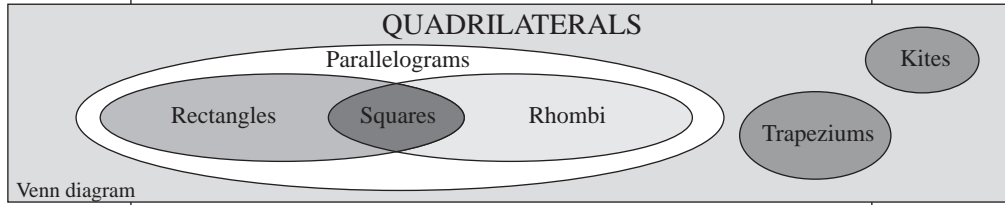
| | | |
|-----------------------------------|--|--|
| polynomial function | <ul style="list-style-type: none"> • A <i>function</i> where the <i>variable</i> is in the second <i>power</i> or higher. | $y = x^3 - 4x^2 + 2x - 8$ is a polynomial function. |
| population | <ul style="list-style-type: none"> • The entire <i>set</i> under consideration in a statistical analysis. | The population of a country is every person who lives in that country. |
| position | <ul style="list-style-type: none"> • Where something is in relation to things around it. | In, on, under, behind, next to. |
| positive numbers | <ul style="list-style-type: none"> • A number that is greater than zero. | +1, +2, +3, +4, +5, are positive numbers. |
| possible outcomes | <ul style="list-style-type: none"> • The total number of result options. | When you toss a coin there are 2 possible results: heads or tails. |
| power | <ul style="list-style-type: none"> • An <i>expression</i>, such as 4^3, in which the base (4) is <i>multiplied</i> by itself a number of times equal to the <i>exponent</i> (3). | 4^3 or 4 to the power of 3 is $4 \times 4 \times 4 = 64$ |
| precision of an instrument | <ul style="list-style-type: none"> • Considered to be the size of the smallest <i>unit</i> on the <i>scale</i> of the instrument. | The ruler has a precision of 0.1 cm.  |
| previous | <ul style="list-style-type: none"> • The one before. | If the current year is 2006, the previous year is 2005. |
| prime factor | <ul style="list-style-type: none"> • A <i>factor</i> that is also a <i>prime number</i>. <i>Factor trees</i> can help to determine a number's prime factors. | The prime factors of 30 are 2, 3 and 5.  |
| prime factorisation | <ul style="list-style-type: none"> • Writing a <i>whole number</i> as the <i>product</i> of its <i>prime factors</i>. | Prime factorisation of 30: $30 = 2 \times 3 \times 5$ |
| prime number | <ul style="list-style-type: none"> • A <i>whole number</i> that has exactly two <i>factors</i>, 1 and itself. • 1 is not a prime number. | 59 is a prime number as its only factors are 1 and 59. The prime numbers between 0 and 100 are: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89 and 97. |

| principal (money) | <ul style="list-style-type: none"> • Capital sum, distinct from <i>interest</i> or <i>income</i>. • The amount of debt on which interest is calculated. | Interest charged = % of principal loan. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|--|---|-----------------|-----------------|--|--|-----------------|--------------|--------------|-----------------|-------------------------|---|---|---|---|---|---------------------|---|---|----|---|---|--------------------------|--|---|----|---|---|-------------------------|---|---|----|----|---|------------------------|--|---|----|----|--|
| prism | <ul style="list-style-type: none"> • A <i>three-dimensional</i> shape. Two <i>parallel bases</i> are the same. |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| prism | <i>Properties</i> | <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="3">Number of</th> <th rowspan="2"><i>Examples</i></th> </tr> <tr> <th><i>Faces</i></th> <th><i>Edges</i></th> <th><i>Vertices</i></th> </tr> </thead> <tbody> <tr> <td><i>Triangular Prism</i></td> <td>Bases are triangles Lateral faces are rectangles</td> <td>5</td> <td>9</td> <td>6</td> <td></td> </tr> <tr> <td><i>Square Prism</i></td> <td>Bases are squares Lateral faces are rectangles</td> <td>6</td> <td>12</td> <td>8</td> <td></td> </tr> <tr> <td><i>Rectangular Prism</i></td> <td>Bases are rectangles Lateral faces are rectangles</td> <td>6</td> <td>12</td> <td>8</td> <td></td> </tr> <tr> <td><i>Pentagonal Prism</i></td> <td>Bases are pentagons Lateral faces are rectangles</td> <td>7</td> <td>15</td> <td>10</td> <td></td> </tr> <tr> <td><i>Hexagonal Prism</i></td> <td>Bases are hexagons Lateral faces are rectangles</td> <td>8</td> <td>18</td> <td>12</td> <td></td> </tr> </tbody> </table> | | Number of | | | <i>Examples</i> | <i>Faces</i> | <i>Edges</i> | <i>Vertices</i> | <i>Triangular Prism</i> | Bases are triangles Lateral faces are rectangles | 5 | 9 | 6 |  | <i>Square Prism</i> | Bases are squares Lateral faces are rectangles | 6 | 12 | 8 |  | <i>Rectangular Prism</i> | Bases are rectangles Lateral faces are rectangles | 6 | 12 | 8 |  | <i>Pentagonal Prism</i> | Bases are pentagons Lateral faces are rectangles | 7 | 15 | 10 |  | <i>Hexagonal Prism</i> | Bases are hexagons Lateral faces are rectangles | 8 | 18 | 12 |  |
| | Number of | | | <i>Examples</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <i>Faces</i> | <i>Edges</i> | <i>Vertices</i> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Triangular Prism</i> | Bases are triangles Lateral faces are rectangles | 5 | 9 | 6 |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Square Prism</i> | Bases are squares Lateral faces are rectangles | 6 | 12 | 8 |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Rectangular Prism</i> | Bases are rectangles Lateral faces are rectangles | 6 | 12 | 8 |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Pentagonal Prism</i> | Bases are pentagons Lateral faces are rectangles | 7 | 15 | 10 |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <i>Hexagonal Prism</i> | Bases are hexagons Lateral faces are rectangles | 8 | 18 | 12 |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| probability | <ul style="list-style-type: none"> • The likelihood that an event will happen, measured as a <i>fraction</i> of the total of possible outcomes. See <i>chance</i>. | <p>The probability of spinning the number 5 is $\frac{1}{8}$.</p>  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| probability scale | <ul style="list-style-type: none"> • A measure, from 0 (no chance) to 1 (will happen), of the likelihood of an event occurring. |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| probability tree diagram | <ul style="list-style-type: none"> • A diagram that displays all the possible <i>outcomes</i> of an <i>event</i>. | <p>When choosing 2 pieces of fruit from a bowl with 4 apples and 3 oranges, there are 4 possible outcomes (branches): AA, AO, OA, OO</p>  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|------------------------|---|--|
| product | <ul style="list-style-type: none"> The result when two or more numbers are <i>multiplied</i>. | The product of 4 and 5 is 20: $4 \times 5 = 5 \times 4 = 20$ |
| profit (money) | <ul style="list-style-type: none"> What is gained, less any <i>expenses</i>. Profit = Revenue – Expense. | Revenue from a business activity is \$20. If the expenses are \$15 then the profit would be \$5. |
| pronumeral | <ul style="list-style-type: none"> A letter which stands in for (pro) a number (numeral). A pronumeral takes the place of: an unknown value or a value which may change (vary) in different situations. Any pronumeral can also be called a <i>variable</i>. | "s" is a pronumeral in the expression $2s + 1$ |
| proper fraction | <ul style="list-style-type: none"> Any <i>fraction</i> in which the <i>numerator</i> is <i>less than</i> the <i>denominator</i>. | $\frac{5}{8}$ the numerator is 5 the denominator is 8. $5 < 8$ so $\frac{5}{8}$ is a proper fraction.  |
| proportion | <ul style="list-style-type: none"> A comparative <i>ratio</i>, showing that two ratios are equivalent. | $\frac{2}{3} = \frac{6}{9}$ is a proportion. 2:3 is the same ratio as 6:9 2:3 is in proportion with 6:9 |
| protractor | <ul style="list-style-type: none"> A <i>semi-circular</i> tool used to measure <i>degrees</i>. There are 180° on a protractor. |  |


| <p>pyramid</p> | <ul style="list-style-type: none"> • A <i>three-dimensional</i> shape. One <i>base</i> is a <i>polygon</i>. All other <i>faces</i> are <i>triangles</i> that meet at one point called <i>vertex</i>. A pyramid is named for the shape of its base. |  | | | |
|-----------------------------------|--|--|---------------------|------------------------|--|
| <p>pyramid</p> | <p><i>Properties</i></p> | <p><i>Number of</i></p> | | | <p><i>Examples</i></p> |
| | | <p><i>Faces</i></p> | <p><i>Edges</i></p> | <p><i>Vertices</i></p> | |
| <p><i>Triangular Pyramid</i></p> | <p>Base is a triangle Lateral faces are triangles</p> | <p>4</p> | <p>6</p> | <p>4</p> |  |
| <p><i>Square Pyramid</i></p> | <p>Base is a square Lateral faces are triangles</p> | <p>5</p> | <p>8</p> | <p>5</p> |  |
| <p><i>Rectangular Pyramid</i></p> | <p>Base is a rectangle Lateral faces are triangles</p> | <p>5</p> | <p>8</p> | <p>5</p> |  |
| <p><i>Pentagonal Pyramid</i></p> | <p>Base is a pentagon Lateral faces are triangles</p> | <p>6</p> | <p>10</p> | <p>6</p> |  |
| <p><i>Hexagonal Pyramid</i></p> | <p>Base is a hexagon Lateral faces are triangles</p> | <p>7</p> | <p>12</p> | <p>7</p> |  |
| <p>Pythagoras' theorem</p> | <ul style="list-style-type: none"> • Rule: $a^2 + b^2 = c^2$ For any <i>right-angled triangle</i>, the square of the length of the <i>hypotenuse</i> (c) equals the sum of the squares of the lengths of the two <i>perpendicular sides</i> (a and b). | <p>$a^2 + b^2 = c^2$</p>  <p>$3^2 + 4^2 = 5^2$ $9 + 16 = 25$ $25 = 25$ (true)</p>  | | | |
| <p>Pythagorean triad</p> | <ul style="list-style-type: none"> • A set of 3 <i>positive integers</i> that make <i>Pythagoras' theorem</i> true. | <p>$a^2 + b^2 = c^2$ $3^2 + 4^2 = 5^2$ $9 + 16 = 25$ so triads include 3,4,5 6,8,10 5,12,13 7,24,25 8,15,17 9,40,41, 20,21,29 etc.</p> | | | |
| <p>quadratic function</p> | <ul style="list-style-type: none"> • A <i>function</i> that can be represented by an <i>equation</i> of the form $y = ax^2 + bx + c$, where a, b and c are <i>real numbers</i> and a can't be 0. The <i>graph</i> of this function is a <i>parabola</i>. | <p>Used to describe the flight of a ball: $y = x^2 + 3x - 2$ is a quadratic function.</p> | | | |


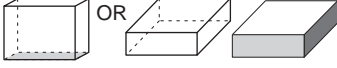
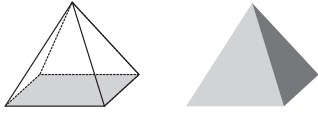
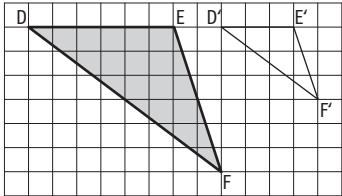
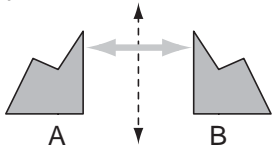
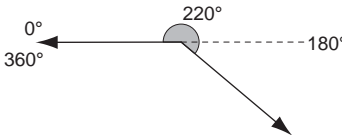
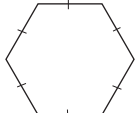
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| quadratic rule | • $y = ax^2 + bx + c$, where $a \neq 0$. | See <i>quadratic function</i> . |
| quadratic trinomial | • An <i>expression</i> with three <i>terms</i> with <i>powers</i> no higher than two. | $g^2 + 3gh - 2g$ is a quadratic trinomial. |
| quadrilateral | • A <i>polygon</i> with 4 <i>sides</i> . | 'Quad' means 4 and 'lateral' means side. |

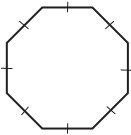
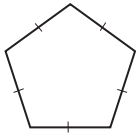
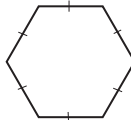
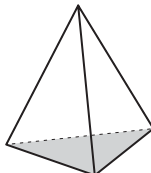




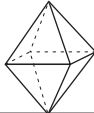






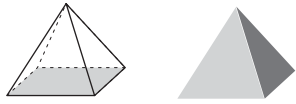
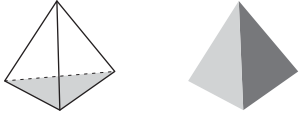
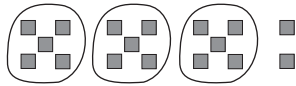
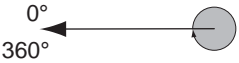
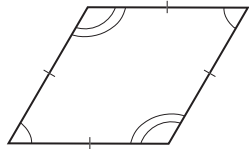
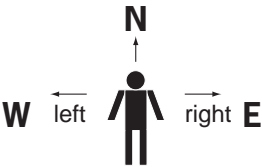

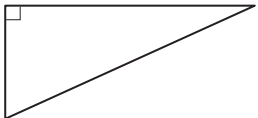
| quadrilateral | Sides | Interior angles | Diagonals | Axes of symmetry | Diagram |
|----------------------|---|-----------------------------------|---|------------------|---------|
| <i>Square</i> | 4 sides of equal length | 4 right angles | 2 diagonals equal in length and bisecting at right angles | 4 | |
| <i>Rectangle</i> | Opposite sides of equal length | 4 right angles | 2 diagonals equal in length and bisecting each other | 2 | |
| <i>Trapezium</i> | 2 opposite sides parallel | | 2 diagonals | 0 | |
| <i>Rhombus</i> | 4 sides of equal length and opposite sides parallel | Opposite angles equal | 2 diagonals bisecting at right angles | 2 | |
| <i>Parallelogram</i> | Opposite sides of equal length and parallel | Opposite angles equal | 2 diagonals bisecting each other | 0 | |
| <i>Kite</i> | 4 sides two each of equal length | One pair of opposite angles equal | 2 diagonals bisecting each other | 1 | |

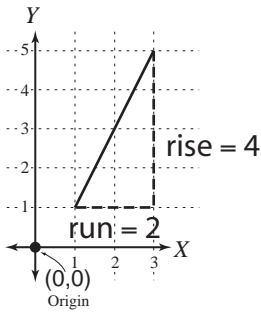
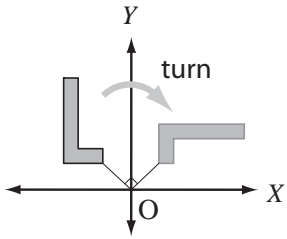

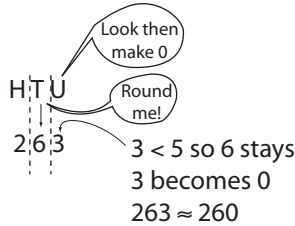
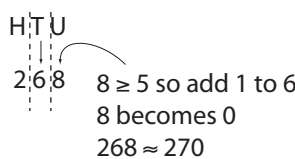
| | | |
|---------------------------|--|---------------------------------|
| quarter | <ul style="list-style-type: none"> • One of four <i>equal</i> parts of a group or object. • Written as the <i>fraction</i> $\frac{1}{4}$. | |
| quartiles | • The collective term for the <i>lower quartile</i> (25th percentile) and the <i>upper quartile</i> (75th percentile) of a set of <i>data</i> . | See <i>box-and-whisker plot</i> |
| radius of a circle | • (pl. <i>radii</i>) The distance from the <i>centre</i> to any <i>point</i> on the <i>circle</i> . | |

| | | |
|---|---|--|
| <p>random sample</p> | <ul style="list-style-type: none"> • A selection taken from a group without method or conscious choice. | <p>Drawing out of a hat is a random selection.</p>  |
| <p>range</p> | <ul style="list-style-type: none"> • The <i>difference</i> between the greatest and the smallest value. | <p>For the data: 21, 24, 25, 27, 27 and 28 the range is $28 - 21 = 7$</p> |
| <p>rate</p> | <ul style="list-style-type: none"> • The <i>ratio</i> of two measures that have different <i>units</i>. | <p>When running, calories burn at a rate of 14 cal/min.</p> |
| <p>ratio</p> | <ul style="list-style-type: none"> • The ratio of a number (<i>a</i>) to a non-zero number (<i>b</i>) is the result when <i>a</i> is divided by <i>b</i>. The ratio of <i>a</i> to <i>b</i> can be written as: $\frac{a}{b}$, <i>a:b</i> or '<i>a to b</i>'. A ratio is made by comparing quantities using the same <i>unit</i> e.g. parts, buckets or litres. | <p>If the ratio of cordial to water is 3:1 then that would mean 3 parts cordial to 1 part water! Agh, the order of the ratio matters.</p> <p>Map scales are an example of a ratio. See also <i>ratio scale</i> and <i>scale</i>.</p> |
| <p>ratio scale</p> | <ul style="list-style-type: none"> • A <i>scale</i> written as a <i>ratio</i>. Compares the dimensions on a map or model (first number) to real life (second number). | <p>If the scale on a map is 1:10 000 1 cm represents 10 000 cm. 1 cm represents 100 m. Every cm on the drawing represents 100 m in real life.</p> |
| <p>rational number (Q)</p> | <ul style="list-style-type: none"> • All <i>positive</i> and <i>negative fractions</i>, including <i>integers</i> and <i>improper fractions</i>. • Not an <i>irrational number</i>. | <p>$-2\frac{3}{7}$, 3.010101..., $\frac{4}{10}$, 0.56, $\sqrt{\frac{4}{9}}$</p> |
| <p>real number (R)</p> | <ul style="list-style-type: none"> • Any number on the <i>number line</i>. • Includes all <i>rational</i> and <i>irrational numbers</i>. <p style="text-align: center;">R REAL NUMBERS</p> | |
| <p>IRRATIONAL π, φ, e, $\sqrt{2}$, $\sqrt{3}$, $\sqrt{5}$, 2.6293045632.... $\cos 30^\circ$</p> | <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Q RATIONAL</p> <p>$-2\frac{3}{7}$, 3.010101..., $\frac{4}{10}$, 0.56, $\sqrt{\frac{4}{9}}$</p> </div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> <p>Z Integers</p> <p>..., -3, -2, -1, 0, 1, 2, 3, ...</p> </div> <div style="border: 1px solid black; border-radius: 10px; padding: 5px; text-align: center;"> <p>N Natural (Whole Numbers)</p> <p>0, 1, 2, 3, 4, 5, 6, ...</p> </div> </div> | |


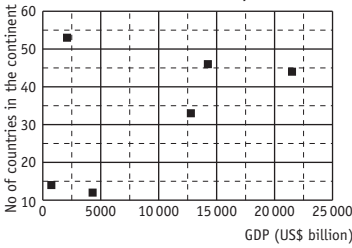

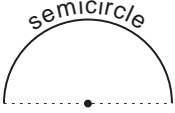
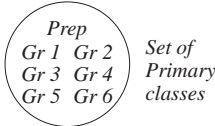

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| reciprocal | <ul style="list-style-type: none"> • A <i>fraction</i> flipped upside down. • Also called the multiplicative <i>inverse</i>. • One of two numbers whose <i>product</i> is 1. | The reciprocal of $\frac{3}{5}$ is $\frac{5}{3}$. $\frac{3}{1} \times \frac{1}{3} = 1$ |
| rectangle | <ul style="list-style-type: none"> • A special <i>parallelogram</i>. Four <i>right angles</i>. |  |
| rectangular prism | <ul style="list-style-type: none"> • A <i>three-dimensional</i> shape. Six rectangular faces. |  |
| rectangular pyramid | <ul style="list-style-type: none"> • A <i>three-dimensional</i> shape. One <i>rectangular base</i>. All the other <i>faces</i> are <i>triangles</i>. |  |
| recurring decimal | <ul style="list-style-type: none"> • A <i>decimal</i> that has a repeating <i>digit</i> or a repeating pattern of digits. • A repeating digit/s is marked with a dot (•) or a bar (—). | $\frac{2}{9} = 0.22222222 = 0.\dot{2}$ $\frac{1}{6} = 0.16666666 = 0.1\dot{6}$ are repeating decimals, where 2 and 6 are the repeating digits respectively. $\frac{1}{11} = 0.09090909 = 0.\dot{0}9$ is a repeating decimal, where 09 is the repeating pattern of digits. |
| reduction | <ul style="list-style-type: none"> • Make smaller or <i>decrease</i>. | $\triangle DEF$ was reduced to $\triangle D'E'F'$ by a scale factor of 2.  |
| reflection | <ul style="list-style-type: none"> • A movement that <i>flips</i> a figure across a <i>line</i> so that the figure is in the mirror image <i>position</i>. | Shape B is a reflection of shape A.  |
| reflex angle | <ul style="list-style-type: none"> • An <i>angle</i> measuring greater than 180° and less than 360°. |  |
| regular hexagon | <ul style="list-style-type: none"> • A <i>polygon</i> with six sides of equal length and six equal angles. |  Regular hexagon |

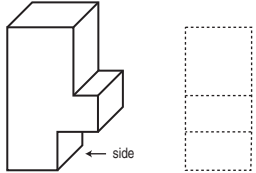

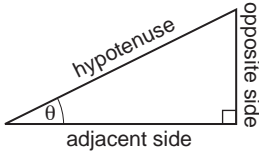

| regular octagon | • A <i>polygon</i> with eight sides of equal length and eight equal angles. |  Regular octagon | | | |
|-------------------------|---|---|-------|----------|---|
| regular pentagon | • A <i>polygon</i> with five sides of equal length and five equal angles. |  Regular pentagon | | | |
| regular polygon | • A shape with all <i>sides</i> and all <i>angles equal</i> . | A regular hexagon has 6 equal sides and 6 equal angles.  Regular hexagon | | | |
| regular prism | • A <i>three-dimensional</i> shape with <i>bases</i> that are <i>regular polygons</i> and all the other faces that are rectangles. | A regular hexagonal prism has regular hexagons as its bases. | | | |
| regular pyramid | • A <i>three-dimensional</i> shape with only one <i>base</i> which is a <i>regular polygon</i> and all the other <i>faces</i> that are <i>triangles</i> . The base gives the pyramid its name, e.g. regular 'triangular' pyramid. | This regular triangular pyramid has an equilateral triangle as its base.  | | | |
| regular solid | • A <i>three-dimensional</i> shape that encloses a part of space, with all faces being <i>regular polygons</i> . | | | | |
| regular solid | Properties | In any polyhedron: $E = F + V - 2$ | | | Examples |
| | All faces are regular polygons | Faces | Edges | Vertices | |
| <i>Tetrahedron</i> | All faces are equilateral triangles | 4 | 6 | 4 |   |
| <i>Hexahedron</i> | All faces are squares | 6 | 12 | 8 |   |
| <i>Octahedron</i> | All faces are equilateral triangles | 8 | 12 | 6 |   |
| <i>Dodecahedron</i> | All faces are regular pentagons | 12 | 30 | 20 |   |
| <i>Icosahedron</i> | All faces are equilateral triangles | 20 | 38 | 20 |  |

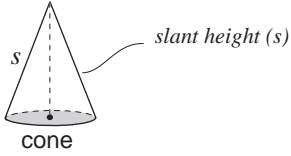
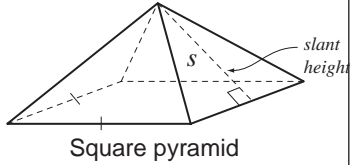


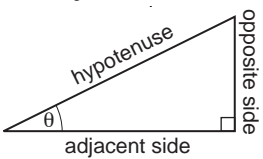
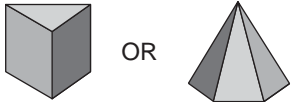



| | | |
|-------------------------------|--|---|
| regular square pyramid | <ul style="list-style-type: none"> • A <i>pyramid</i> whose <i>base</i> is a <i>square</i> and whose <i>height</i> intersects the base at its centre. • All 4 <i>slant heights</i> and 4 <i>vertical edges</i> are <i>congruent</i>. |  |
| regular tetrahedron | <ul style="list-style-type: none"> • A <i>triangular pyramid</i> whose four <i>faces</i> are equal <i>equilateral triangles</i>. |  |
| relative error | <ul style="list-style-type: none"> • The degree to which a measurement is different to the actual value. | <p>"My measuring may be off by 1%!"</p> |
| remainder | <ul style="list-style-type: none"> • The amount left over when one number cannot be <i>divided</i> exactly by another. | <p>$17 \div 5 = 3$ with 2 remainder.</p>  |
| reversible | <ul style="list-style-type: none"> • Able to be turned in the <i>opposite</i> way. | <p>The process of freezing the water is reversible: water \rightarrow ice \rightarrow water</p> |
| revolution | <ul style="list-style-type: none"> • A complete turn. • An <i>angle</i> measuring 360°. |  |
| rhombus | <ul style="list-style-type: none"> • (pl. rhombi) A special <i>parallelogram</i>. Four <i>equal sides</i>. <i>Opposite angles equal</i>. |  |
| right | <ul style="list-style-type: none"> • The <i>direction</i> to the <i>east</i> of your body if you are facing <i>north</i>. |  |
| right angle | <ul style="list-style-type: none"> • An <i>angle</i> measuring exactly 90°. It is marked with a corner. |  |
| right-angled triangle | <ul style="list-style-type: none"> • A <i>triangle</i> with one <i>right angle</i>. |  |

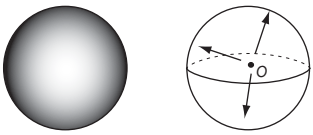
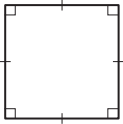
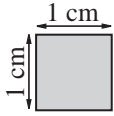
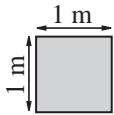
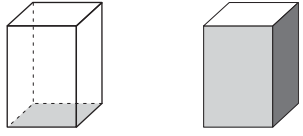
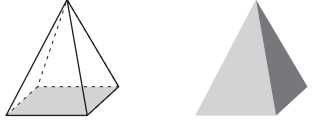
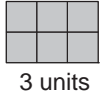
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| <p>rise</p> | <ul style="list-style-type: none"> The vertical change in the y value on a straight line. It helps determine the <i>gradient of a line</i>. <p>See <i>gradient of a line</i>.</p> | <p>The value of the y-axis changes from 1 to 5 so the rise is 4.</p>  $\text{gradient} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x}$ $= \frac{4}{2} = 2$ |
| <p>Roman numerals</p> | <ul style="list-style-type: none"> Number system invented by the ancient Romans. | <p>I = 1 V = 5 X = 10 L = 50 C = 100 D = 500 M = 1000</p> |
| <p>rotation</p> | <ul style="list-style-type: none"> A movement that turns a shape about a fixed <i>point</i> (the centre of rotation) by a given <i>angle</i> (the angle of rotation). | <p>The centre of rotation is the origin O and the angle of rotation is 90°.</p>  |
| <p>rotational symmetry</p> | <ul style="list-style-type: none"> A shape has rotational symmetry if a rotation of 180° or less produces an image that fits exactly on the original shape. | <p>This shape has rotational symmetry, because after a rotation of 120° it looks identical to the original.</p>  |
| <p>round</p> | <ul style="list-style-type: none"> To <i>approximate</i> a number to a given <i>place value</i>. <p>Look at the next <i>digit</i> after the given place value you are rounding to.</p> <p>If this digit is less than 5, keep the digit in the given place value the same.</p> <p>If this digit is greater than or equal to 5, add 1 to the digit in the given place value. Then make the <i>digit</i> you were looking at zero.</p> | <p>Round 263 to the nearest 10:</p>  <p>Round 268 to the nearest 10:</p>  |


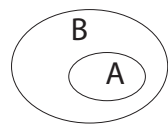
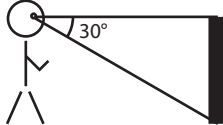
| <p>row of a table</p> | <ul style="list-style-type: none"> • A <i>horizontal</i> line of <i>data</i> in a table. | <p>Netball: Aust v NZ</p> <table border="1"> <thead> <tr> <th>Quarters</th> <th>NZ Shooting chances</th> <th>Actual goals</th> <th>Success %</th> </tr> </thead> <tbody> <tr> <td>1st</td> <td>9</td> <td>9</td> <td>100</td> </tr> <tr> <td>2nd</td> <td>14</td> <td>13</td> <td>92.85</td> </tr> <tr> <td>3rd</td> <td>23</td> <td>20</td> <td>86.95</td> </tr> <tr> <td>4th</td> <td>18</td> <td>17</td> <td>94.44</td> </tr> </tbody> </table> | Quarters | NZ Shooting chances | Actual goals | Success % | 1st | 9 | 9 | 100 | 2nd | 14 | 13 | 92.85 | 3rd | 23 | 20 | 86.95 | 4th | 18 | 17 | 94.44 |
|------------------------------|--|--|-----------|---------------------|--------------|-----------|-----|---|---|-----|-----|----|----|-------|-----|----|----|-------|-----|----|----|-------|
| Quarters | NZ Shooting chances | Actual goals | Success % | | | | | | | | | | | | | | | | | | | |
| 1st | 9 | 9 | 100 | | | | | | | | | | | | | | | | | | | |
| 2nd | 14 | 13 | 92.85 | | | | | | | | | | | | | | | | | | | |
| 3rd | 23 | 20 | 86.95 | | | | | | | | | | | | | | | | | | | |
| 4th | 18 | 17 | 94.44 | | | | | | | | | | | | | | | | | | | |
| <p>rule</p> | <ul style="list-style-type: none"> • See <i>function</i>. | | | | | | | | | | | | | | | | | | | | | |
| <p>run</p> | <ul style="list-style-type: none"> • The horizontal change in the <i>x</i> value on a straight <i>line</i>. It helps determine the <i>gradient of a line</i>. See <i>gradient of a line</i>. | <p>The value of the <i>x</i>-axis changes from 1 to 3 so the run is 2.</p> <p>gradient = $\frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x}$ $= \frac{4}{2} = 2$</p> | | | | | | | | | | | | | | | | | | | | |
| <p>sample</p> | <ul style="list-style-type: none"> • A selection taken from a group or <i>population</i>. | <p>See <i>random sample</i>.</p> | | | | | | | | | | | | | | | | | | | | |
| <p>sample space</p> | <ul style="list-style-type: none"> • The <i>set</i> of all possible <i>outcomes</i> of an <i>experiment</i>. | <p>A coin is flipped - Sample space = {heads, tails}</p> | | | | | | | | | | | | | | | | | | | | |
| <p>scale</p> | <ul style="list-style-type: none"> • A key on a <i>scale drawing</i>/map that tells how the drawing's <i>dimensions</i> and life size dimensions are related. Can be written as: 1) A <i>ratio scale</i> with the first number referring to the map distance and the second number referring to the real distance. OR 2) A <i>linear scale</i> with a set of marks on a line. | <p>On a map with a ratio scale of 1 : 10 000 1 cm represents 10 000 cm or 100 m Every centimetre on the drawing represents 100 m in real life.</p> <p>On a map with this linear scale, every highlighted segment represents 2 km in real life.</p> | | | | | | | | | | | | | | | | | | | | |
| <p>scale drawing</p> | <ul style="list-style-type: none"> • Changing the size of an object but not the shape. | <p>A life size staple. </p> <p>The staple scaled by 50%. </p> | | | | | | | | | | | | | | | | | | | | |

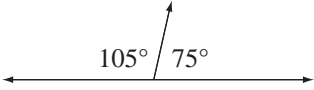
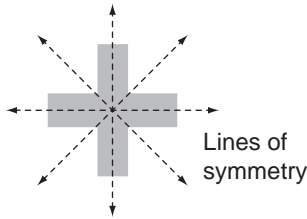
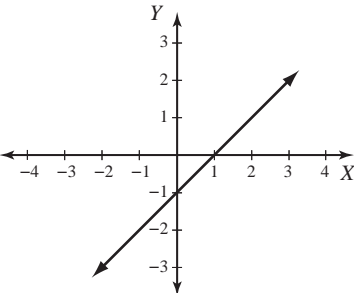
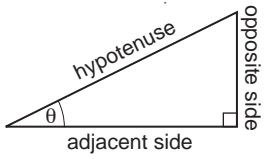
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| <p>scale factor</p> | <ul style="list-style-type: none"> The amount used to <i>enlarge</i>, <i>reduce</i> or find the original size of an object. | <p>To make an object 2 times bigger or 200% of the original size, enlarge the object by a scale factor 2 : 1 To do this multiply each dimension by the fraction $\frac{2}{1}$.</p> <p>To make an object 2 times smaller or 50% of the original size, reduce the object by a scale factor 1 : 2 To do this multiply each dimension by the fraction $\frac{1}{2}$.</p> |
| <p>scalene triangle</p> | <ul style="list-style-type: none"> A <i>triangle</i> in which all three sides are a different length. |  |
| <p>scatter plot</p> | <ul style="list-style-type: none"> A <i>graph</i> in which two sets of data are plotted as ordered pairs in a <i>coordinate plane</i>. | <p>Continental facts (no Antarctica) Number of countries/GDP</p>  |
| <p>second (s)</p> | <ul style="list-style-type: none"> A very short unit of <i>time</i>. | <p>There are 60 seconds in 1 minute.</p> |
| <p>second</p> | <ul style="list-style-type: none"> The <i>position</i> after <i>first</i>. | <p>1st, 2nd.....</p> |
| <p>segment</p> | <ul style="list-style-type: none"> Two <i>points</i> and all points on the <i>line</i> between the two points. Part of a line. |  |
| <p>semicircle</p> | <ul style="list-style-type: none"> Half of a circle. |  |
| <p>sequence of numbers</p> | <ul style="list-style-type: none"> A list of numbers that follows a certain <i>rule</i>. Each number is called a <i>term</i>. | <p>35, 30, 25, 20, ... In this sequence of numbers, the next three are 15, 10 and 5.</p> |
| <p>set { }</p> | <ul style="list-style-type: none"> A collection of items. Members of a set are called <i>elements</i>. | <p>There are 7 elements in the set.</p>  |
| <p>seventh</p> | <ul style="list-style-type: none"> The <i>position</i> after <i>sixth</i>. | <p>1st, 2nd, 3rd, 4th, 5th, 6th, 7th...</p> |
| <p>side</p> | <ul style="list-style-type: none"> One of the lines that form a <i>polygon</i>. |  |

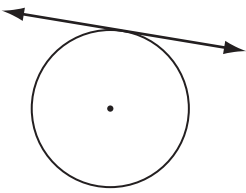

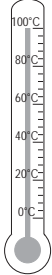

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| <p>side view</p> | <ul style="list-style-type: none"> • What you see of an object looking from a side <i>perspective</i>. • <i>Three-dimensional</i> objects have 3 views: front, top and side. |  |
| <p>sign</p> | <ul style="list-style-type: none"> • The <i>positive</i> or <i>negative</i> indicator attached to any <i>real number</i> that is <i>greater than</i> or <i>less than</i> zero respectively. | <p>+ positive sign - negative sign</p> |
| <p>similar shapes</p> | <ul style="list-style-type: none"> • Shapes that are identical but not necessarily in size. | <p>These stars are similar.</p>  |
| <p>simple interest</p> | <ul style="list-style-type: none"> • <i>Interest</i> paid only on the <i>principal</i> not on the accruing interest as well. • Interest = principal \times rate \times time OR $SI = prt$ | <p>If you deposit \$100 in a bank which pays 6%, you will earn $100 \times 0.06 = 6$ or \$6 simple interest in a year.</p> |
| <p>simplest form of a fraction</p> | <ul style="list-style-type: none"> • A <i>fraction</i> is in its simplest form when the only number that divides into both the <i>numerator</i> and the <i>denominator</i> is 1. | <p>The simplest form of $\frac{6}{9}$ is $\frac{2}{3}$ (Divide 6 and 9 by 3. 2 and 3 can only be divided by 1 so they cannot be reduced.)</p> |
| <p>simplify</p> | <ul style="list-style-type: none"> • To reduce to the <i>simplest form</i>. | <p>To simplify the ratio 14:6 divide both sides by 2. 14:6 simplified is 7:3.</p> |
| <p>simultaneous equations</p> | <ul style="list-style-type: none"> • Two or more equations containing a common variable or variables. | <p>$x + y = 1$ $x^2 + y^2 = 2$ are simultaneous equations.</p> |
| <p>sine</p> | <ul style="list-style-type: none"> • A <i>trigonometric</i> function. • In a <i>right-angled triangle</i>, the sine of an <i>acute angle</i> is the <i>ratio</i> of the length of the side <i>opposite</i> the angle to the length of the <i>hypotenuse</i>. | <p>$\sin \theta = \frac{\text{Opposite}}{\text{Hypotenuse}}$</p>  |
| <p>sixth</p> | <ul style="list-style-type: none"> • The <i>position</i> after <i>fifth</i>. | <p>1st, 2nd, 3rd, 4th, 5th, 6th.....</p> |
| <p>size</p> | <ul style="list-style-type: none"> • How big an object is. | <p>The size of the wave is 2 m.</p>  |

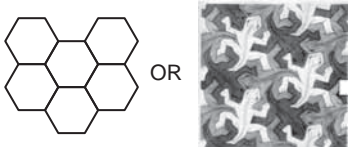
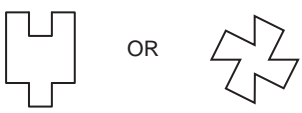
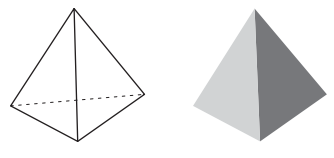
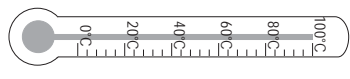
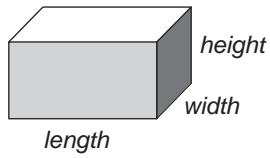
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| <p>slant height (cone)</p> | <ul style="list-style-type: none"> The distance from the <i>vertex</i> to any <i>point</i> on the circular <i>edge</i> of the <i>base</i>. |  |
| <p>slant height (regular pyramid)</p> | <ul style="list-style-type: none"> The <i>length</i> of an <i>altitude</i> of a <i>lateral face</i>. |  |
| <p>slide</p> | <ul style="list-style-type: none"> Move without changing <i>direction</i>. See <i>translation</i>. |  |
| <p>smallest to largest</p> | <ul style="list-style-type: none"> Ranking in order from the <i>littlest</i> to the <i>biggest</i>. |  |
| <p>SOH - CAH - TOA</p> | <ul style="list-style-type: none"> Memory jogger for calculating the <i>trigonometric ratios</i> of <i>sine</i>, <i>cosine</i> and <i>tangent</i>. | $\sin \theta = \frac{\text{Opposite}}{\text{Hypotenuse}} \quad \text{SOH}$ $\cos \theta = \frac{\text{Adjacent}}{\text{Hypotenuse}} \quad \text{CAH}$ $\tan \theta = \frac{\text{Opposite}}{\text{Adjacent}} \quad \text{TOA}$  |
| <p>solid</p> | <ul style="list-style-type: none"> A <i>three-dimensional</i> shape that encloses a part of space. |  |
| <p>south</p> | <ul style="list-style-type: none"> A <i>compass direction</i>. |  |
| <p>south-east</p> | <ul style="list-style-type: none"> A <i>compass direction</i>. |  |
| <p>south-west</p> | <ul style="list-style-type: none"> A <i>compass direction</i>. |  |
| <p>speed</p> | <ul style="list-style-type: none"> The <i>rate</i> at which an object moves. Speed is worked out by dividing the distance travelled by the time taken. We call this average speed $v = \frac{d}{t}$ | <p>The average speed for a car which travels 270 km in 3 h is:</p> $v = \frac{\text{distance}}{\text{time}} = \frac{270}{3} = 90 \text{ km/h}$ |

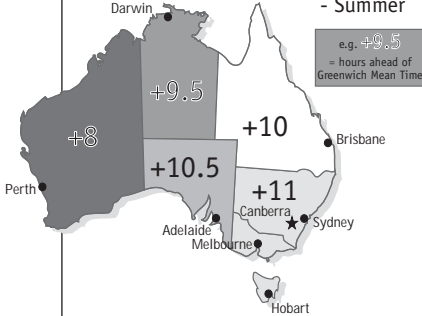
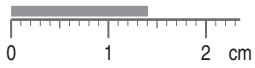
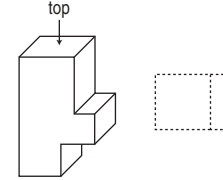
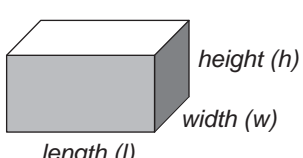
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| <p>sphere</p> | <ul style="list-style-type: none"> • A <i>set of points</i> in space of equal distance from the central point. |  |
| <p>square</p> | <ul style="list-style-type: none"> • A <i>rectangle</i> with all <i>sides</i> of equal length. |  |
| <p>square centimetre (cm²)</p> | <ul style="list-style-type: none"> • A <i>unit of area</i> equal to 1 centimetre by 1 centimetre. |  |
| <p>square metre (m²)</p> | <ul style="list-style-type: none"> • A <i>unit of area</i> equal to 1 metre by 1 metre. |  |
| <p>square number</p> | <ul style="list-style-type: none"> • A number that results from <i>multiplying</i> another number by itself. | <p>9, 6.25 and $\frac{4}{9}$ are all square numbers.</p> <p>$9 = 3 \times 3$ $6.25 = 2.5 \times 2.5$ $\frac{4}{9} = \frac{2}{3} \times \frac{2}{3}$</p> |
| <p>square prism</p> | <ul style="list-style-type: none"> • A <i>three-dimensional</i> shape. Two identical square <i>bases</i>. All the other faces are <i>rectangles</i>. |  |
| <p>square pyramid</p> | <ul style="list-style-type: none"> • A <i>three-dimensional</i> shape. One square <i>base</i>. All the other faces are <i>triangles</i>. |  |
| <p>square root of a number ($\sqrt{\quad}$)</p> | <ul style="list-style-type: none"> • A <i>number</i> which, when <i>multiplied</i> by itself, gives the original number. Finding the square root of a number is the <i>inverse operation</i> of squaring that number. | <p>$\sqrt{900} = 30$ Square root of 900 is 30, because $30 \times 30 = 900$ or $30^2 = 900$</p> |
| <p>square units</p> | <ul style="list-style-type: none"> • A <i>unit of area</i> equal to the area of a square with side lengths of 1 unit. | <p>$A = lw$ $= 3 \times 2$ $= 6$</p>  <p>2 units 3 units</p> <p>Area = 6 square units</p> |
| <p>squared</p> | <ul style="list-style-type: none"> • <i>Multiplied</i> by itself. A number raised to the second <i>power</i>. | <p>4 squared is written as 4^2 $4^2 = 4 \times 4 = 16$</p> |

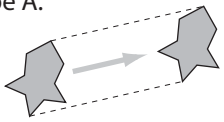
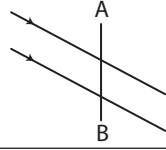
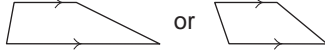
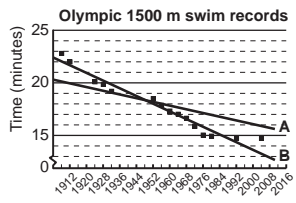

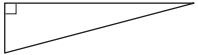
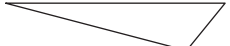
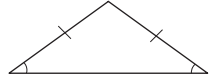
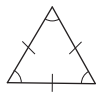
| <p>statistics</p> | <ul style="list-style-type: none"> Numerical facts systematically collected, organised and analysed. | <p>Data is collected from a sample of the population, organised into a graph and interpreted to summarise some characteristic.</p> | | | | | | | | | | | | |
|--|---|--|------|--------|-------------------|---|---------|-------------|---|---------------|-----------|---|-----|--------------------|
| <p>stem-and-leaf plot</p> | <ul style="list-style-type: none"> A diagram displaying <i>data</i> by <i>place value</i>. The data is in order from lowest to highest. | | | | | | | | | | | | | |
| <p>Data set of 13 elements: $\{13, 18, 18, 19, 20, 21, 21, 22, 22, 22, 29, 30, 31\}$</p> <p style="text-align: center;">mode = 22 median (7th element) = 21 range</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>stem</th> <th>leaves</th> <th>lowest value = 13</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3 8 8 9</td> <td>median = 21</td> </tr> <tr> <td>2</td> <td>0 1 1 2 2 2 9</td> <td>mode = 22</td> </tr> <tr> <td>3</td> <td>0 1</td> <td>highest value = 31</td> </tr> </tbody> </table> <div style="margin-left: auto; margin-right: auto;"> <p>range = high - low</p> <p>= 31 - 13</p> <p>= 18</p> <p>mean = $286 \div 13$</p> <p>= 22</p> </div> | | | stem | leaves | lowest value = 13 | 1 | 3 8 8 9 | median = 21 | 2 | 0 1 1 2 2 2 9 | mode = 22 | 3 | 0 1 | highest value = 31 |
| stem | leaves | lowest value = 13 | | | | | | | | | | | | |
| 1 | 3 8 8 9 | median = 21 | | | | | | | | | | | | |
| 2 | 0 1 1 2 2 2 9 | mode = 22 | | | | | | | | | | | | |
| 3 | 0 1 | highest value = 31 | | | | | | | | | | | | |
| <p>straight angle</p> | <ul style="list-style-type: none"> An <i>angle</i> measuring 180°. |  | | | | | | | | | | | | |
| <p>subset (\subset)</p> | <ul style="list-style-type: none"> A <i>set of elements</i> completely contained in a larger set. | <p>$\{a, b\} \subset \{a, b, c, d, e\}$</p> <p>$A \subset B$</p>  | | | | | | | | | | | | |
| <p>substitute</p> | <ul style="list-style-type: none"> To replace a number or <i>function</i> with another. Often used in <i>algebra</i> when a <i>pronumeral</i> is replaced by a number. | <p>If $x = 4$, the value of $x + x$ is found by replacing the letter x with 4:</p> <p>$4 + 4 = 8$</p> | | | | | | | | | | | | |
| <p>subtended angle</p> | <ul style="list-style-type: none"> The <i>angle</i> formed by an object at a given external point. | <p>The post subtends at an angle of 30° to the observer's eye.</p>  | | | | | | | | | | | | |
| <p>subtract</p> | <ul style="list-style-type: none"> To take away or <i>minus</i>. | <p>If you subtract 10 from 15 you are left with 5:</p> <p>$15 - 10 = 5$</p> | | | | | | | | | | | | |
| <p>sum</p> | <ul style="list-style-type: none"> The result when two or more numbers are added. | <p>The sum of 20 and 6 is 26:</p> <p>$20 + 6 = 6 + 20 = 26$</p> | | | | | | | | | | | | |
| <p>super annuation</p> | <ul style="list-style-type: none"> An investment strategy designed to provide for retirement. | <p>In Australia, an employer pays 9% of an employee's base wage into superannuation.</p> | | | | | | | | | | | | |

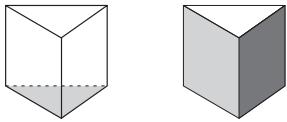
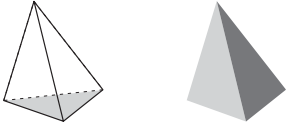
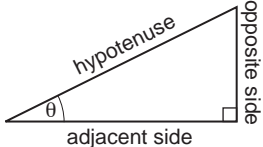

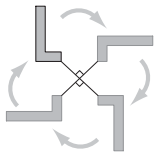
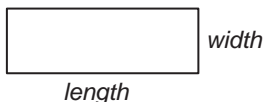
| <p>supplement of an angle</p> | <ul style="list-style-type: none"> • An <i>angle</i> that, when added to an <i>adjacent</i> angle, makes a <i>straight angle</i> (or 180° in total). | <p>75° is the supplement of 105°, because $75^\circ + 105^\circ = 180^\circ$</p>  | | | | | | | | | | | | | | | | | | | | |
|--------------------------------------|--|--|-----------|---------------------|--------------|-----------|-----|---|---|-----|-----|----|----|-------|-----|----|----|-------|-----|----|----|-------|
| <p>surd</p> | <ul style="list-style-type: none"> • An <i>irrational number</i>. It can be expressed as an <i>infinite non-recurring decimal</i> but not as a <i>fraction</i>. | <p>The square roots of prime numbers are all surds. $\sqrt{7} = 2.64575131.....$ $\sqrt{7}$ is a surd.</p> | | | | | | | | | | | | | | | | | | | | |
| <p>survey</p> | <ul style="list-style-type: none"> • A method of collecting a <i>sample of data</i> by getting people's responses. | <p>TV ratings are determined by surveying viewers.</p> | | | | | | | | | | | | | | | | | | | | |
| <p>symmetry</p> | <ul style="list-style-type: none"> • A shape has a <i>line of symmetry</i> when a line can be drawn through the shape so that one side of the shape is the mirror image of the other. | <p>There are 3 kinds of symmetry: horizontal symmetry vertical symmetry rotational symmetry</p>  <p>Lines of symmetry</p> | | | | | | | | | | | | | | | | | | | | |
| <p>table</p> | <ul style="list-style-type: none"> • <i>Data</i> organised in <i>columns</i> and <i>rows</i>. | <p>Netball: Aust v NZ</p> <table border="1" data-bbox="1145 1099 1437 1317"> <thead> <tr> <th>Quarters</th> <th>NZ Shooting chances</th> <th>Actual goals</th> <th>Success %</th> </tr> </thead> <tbody> <tr> <td>1st</td> <td>9</td> <td>9</td> <td>100</td> </tr> <tr> <td>2nd</td> <td>14</td> <td>13</td> <td>92.85</td> </tr> <tr> <td>3rd</td> <td>23</td> <td>20</td> <td>86.95</td> </tr> <tr> <td>4th</td> <td>18</td> <td>17</td> <td>94.44</td> </tr> </tbody> </table> | Quarters | NZ Shooting chances | Actual goals | Success % | 1st | 9 | 9 | 100 | 2nd | 14 | 13 | 92.85 | 3rd | 23 | 20 | 86.95 | 4th | 18 | 17 | 94.44 |
| Quarters | NZ Shooting chances | Actual goals | Success % | | | | | | | | | | | | | | | | | | | |
| 1st | 9 | 9 | 100 | | | | | | | | | | | | | | | | | | | |
| 2nd | 14 | 13 | 92.85 | | | | | | | | | | | | | | | | | | | |
| 3rd | 23 | 20 | 86.95 | | | | | | | | | | | | | | | | | | | |
| 4th | 18 | 17 | 94.44 | | | | | | | | | | | | | | | | | | | |
| <p>table of values</p> | <ul style="list-style-type: none"> • Mathematical <i>data</i> organised in <i>rows</i> and <i>columns</i> representing possible solutions for x and y. The solutions can be graphed. | <table border="1" data-bbox="1129 1406 1449 1487"> <tbody> <tr> <td>x</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> </tr> <tr> <td>y</td> <td>-3</td> <td>-2</td> <td>-1</td> <td>0</td> <td>1</td> <td>2</td> </tr> </tbody> </table>  | x | -2 | -1 | 0 | 1 | 2 | 3 | y | -3 | -2 | -1 | 0 | 1 | 2 | | | | | | |
| x | -2 | -1 | 0 | 1 | 2 | 3 | | | | | | | | | | | | | | | | |
| y | -3 | -2 | -1 | 0 | 1 | 2 | | | | | | | | | | | | | | | | |
| <p>tangent</p> | <ul style="list-style-type: none"> • A <i>trigonometric function</i>. • In a <i>right-angled triangle</i>, the tangent of an <i>acute angle</i> is the <i>ratio</i> of the length of the side <i>opposite</i> the angle to the length of the side <i>adjacent</i> to it. | <p>$\tan \theta = \frac{\text{Opposite}}{\text{Adjacent}}$</p>  | | | | | | | | | | | | | | | | | | | | |

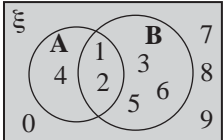
| <p>tangent to a circle</p> | <ul style="list-style-type: none"> • A <i>line</i> that touches the <i>circle</i> at a <i>point</i> without crossing over. |  | | | | | | | | | | | | | | |
|-----------------------------------|---|---|-----------|----------|------------|-------------|--------|------------|-------------|---|---|---|---|---|---|---|
| <p>tax</p> | <ul style="list-style-type: none"> • A financial charge imposed by the state often calculated as a <i>percentage</i>. |  | | | | | | | | | | | | | | |
| <p>temperature</p> | <ul style="list-style-type: none"> • How hot or cold a thing is. • Temperature is measured in <i>degrees Celsius</i> ($^{\circ}\text{C}$) with a <i>thermometer</i>. | <p>100$^{\circ}\text{C}$ is the temperature at which water boils.</p>  | | | | | | | | | | | | | | |
| <p>tens</p> | <ul style="list-style-type: none"> • The <i>place value</i> between the <i>units</i> and <i>hundreds</i>. | <p>1825.763 has 2 tens.</p> <table border="1" data-bbox="1182 931 1536 1079"> <thead> <tr> <th>thousands</th> <th>hundreds</th> <th>tens</th> <th>units</th> <th>tenths</th> <th>hundredths</th> <th>thousandths</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>8</td> <td>2</td> <td>5</td> <td>7</td> <td>6</td> <td>3</td> </tr> </tbody> </table> | thousands | hundreds | tens | units | tenths | hundredths | thousandths | 1 | 8 | 2 | 5 | 7 | 6 | 3 |
| thousands | hundreds | tens | units | tenths | hundredths | thousandths | | | | | | | | | | |
| 1 | 8 | 2 | 5 | 7 | 6 | 3 | | | | | | | | | | |
| <p>tenth</p> | <ul style="list-style-type: none"> • One part out of 10 parts of one whole. |  | | | | | | | | | | | | | | |
| <p>tenths</p> | <ul style="list-style-type: none"> • The <i>place value</i> after the decimal point between the <i>units</i> and <i>hundredths</i>. | <p>1825.763 has 7 tenths.</p> <table border="1" data-bbox="1182 1317 1536 1464"> <thead> <tr> <th>thousands</th> <th>hundreds</th> <th>tens</th> <th>units</th> <th>tenths</th> <th>hundredths</th> <th>thousandths</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>8</td> <td>2</td> <td>5</td> <td>7</td> <td>6</td> <td>3</td> </tr> </tbody> </table> | thousands | hundreds | tens | units | tenths | hundredths | thousandths | 1 | 8 | 2 | 5 | 7 | 6 | 3 |
| thousands | hundreds | tens | units | tenths | hundredths | thousandths | | | | | | | | | | |
| 1 | 8 | 2 | 5 | 7 | 6 | 3 | | | | | | | | | | |
| <p>term</p> | <ul style="list-style-type: none"> • Any part of an expression separated by “+” or “-” signs. • A term can be a: <ol style="list-style-type: none"> <i>numeral</i> single <i>pronumeral</i> (letter) <i>product</i> of a number and a pronumeral product of a number and two or more pronumerals <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div data-bbox="466 1895 783 2085" style="border: 1px solid black; padding: 5px;"> $a + a + a + a + a = \text{Five lots of } a$ $= 5 \times a$ $= 5a$ <p>We simplify the writing by removing the “x” sign. We read this as “five a”.</p> </div> <div data-bbox="799 1895 1106 2085" style="border: 1px solid black; padding: 5px;"> $a = \text{One lot of } a$ $= 1 \times a$ $= 1a$ $= a$ <p>We simplify the writing by removing the “1” and the “x” sign. We read this as “a”.</p> </div> </div> | <ol style="list-style-type: none"> $7, \frac{1}{3}$ or -18 a, b or $-c$ $7a, \frac{1}{b}, -18g$ or $3x^2$ $7ab, 5mn^3$ or $-3jk^2$ <p>A term that has both numerals and pronumerals is always written with the number before the pronumeral.</p> <p>If there is more than one pronumeral in the term then they are usually written in alphabetical order.</p> | | | | | | | | | | | | | | |

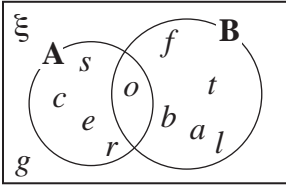
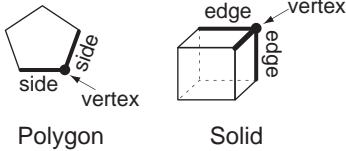
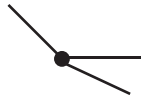
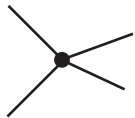
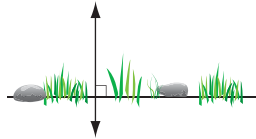
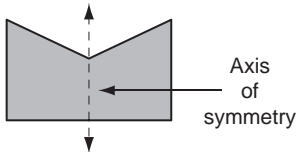
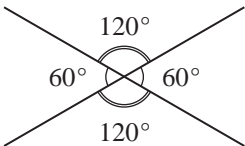
| | | | | | | | | | | | | | | | | |
|--------------------------------------|---|--|-----------|----------|------------|-------------|--------|------------|-------------|---|---|---|---|---|---|---|
| <p>terminating decimal</p> | <ul style="list-style-type: none"> • A <i>decimal</i> whose <i>digits</i> end. Every terminating decimal can be written as a <i>fraction</i> with a <i>denominator</i> of 10, 100 or 1000 etc. | $0.765 = \frac{765}{1000}$ | | | | | | | | | | | | | | |
| <p>tessellation</p> | <ul style="list-style-type: none"> • A repeated shape covering a large <i>plane</i> area with no gaps and no overlaps. Brick walls and tiled floors are examples of tessellations. <i>Maurits Escher</i>, a Dutch mathematician, developed tessellating patterns and artwork by distorting or adding and taking space from the <i>opposite</i> sides of <i>polygons</i>. | <p>Tessellating patterns</p>  <p>Tessellating shapes</p>  | | | | | | | | | | | | | | |
| <p>tetrahedron</p> | <ul style="list-style-type: none"> • A <i>triangular pyramid</i>. See also regular tetrahedron. |  | | | | | | | | | | | | | | |
| <p>thermometer</p> | <ul style="list-style-type: none"> • An instrument used to measure <i>temperature</i>. |  | | | | | | | | | | | | | | |
| <p>third</p> | <ul style="list-style-type: none"> • The <i>position</i> after <i>second</i>. | <p>1st, 2nd, 3rd.....</p> | | | | | | | | | | | | | | |
| <p>thousands</p> | <ul style="list-style-type: none"> • The <i>place value</i> between <i>hundreds</i> and tens of thousands. | <p>1825.763 has 1 thousand.</p> <table border="1" data-bbox="1109 1198 1468 1344"> <tr> <td>thousands</td> <td>hundreds</td> <td>tens</td> <td>units</td> <td>tenths</td> <td>hundredths</td> <td>thousandths</td> </tr> <tr> <td>1</td> <td>8</td> <td>2</td> <td>5</td> <td>7</td> <td>6</td> <td>3</td> </tr> </table> | thousands | hundreds | tens | units | tenths | hundredths | thousandths | 1 | 8 | 2 | 5 | 7 | 6 | 3 |
| thousands | hundreds | tens | units | tenths | hundredths | thousandths | | | | | | | | | | |
| 1 | 8 | 2 | 5 | 7 | 6 | 3 | | | | | | | | | | |
| <p>thousandth</p> | <ul style="list-style-type: none"> • One part out of 1000 parts of one whole. | <p>One gram is a thousandth of a kilogram.</p> | | | | | | | | | | | | | | |
| <p>thousandths</p> | <ul style="list-style-type: none"> • The <i>place value</i> after <i>hundredths</i>. | <p>1825.763 has 3 thousandths.</p> <table border="1" data-bbox="1109 1590 1468 1736"> <tr> <td>thousands</td> <td>hundreds</td> <td>tens</td> <td>units</td> <td>tenths</td> <td>hundredths</td> <td>thousandths</td> </tr> <tr> <td>1</td> <td>8</td> <td>2</td> <td>5</td> <td>7</td> <td>6</td> <td>3</td> </tr> </table> | thousands | hundreds | tens | units | tenths | hundredths | thousandths | 1 | 8 | 2 | 5 | 7 | 6 | 3 |
| thousands | hundreds | tens | units | tenths | hundredths | thousandths | | | | | | | | | | |
| 1 | 8 | 2 | 5 | 7 | 6 | 3 | | | | | | | | | | |
| <p>three-dimensional (3D)</p> | <ul style="list-style-type: none"> • Able to be measured in three directions namely <i>length</i>, <i>width</i> and <i>height</i>. |  | | | | | | | | | | | | | | |
| <p>time</p> | <ul style="list-style-type: none"> • The continuum from past to present to future. | <p>The time is 9:25 am.</p> | | | | | | | | | | | | | | |

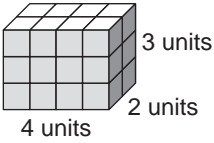

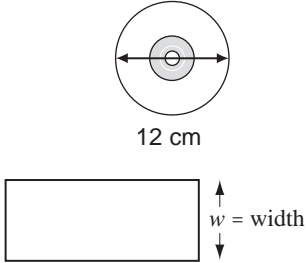
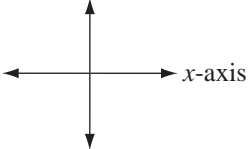
| | | |
|--|---|--|
| <p>time zone</p> | <ul style="list-style-type: none"> Regions of different <i>times</i> around the world. Based on Greenwich Mean Time (GMT), each 15° of longitude away from Greenwich, England represents 1 hour of time. | <p>NSW time is 3 hours ahead of WA time during daylight saving.</p> <p>Daylight Saving Time Zones - Summer</p>  <p>e.g. +9.5 = hours ahead of Greenwich Mean Time</p> |
| <p>tip</p> | <ul style="list-style-type: none"> Optional payment given in addition to a required payment, usually to express appreciation for excellent service. | <p>The tip added an extra 5% to the cost of the meal.</p> |
| <p>tolerance</p> | <ul style="list-style-type: none"> The greatest <i>range</i> of variation that can be allowed. The amount of acceptable <i>error</i>. | <p>See <i>tolerance interval</i></p> |
| <p>tolerance interval</p> | <ul style="list-style-type: none"> To calculate the tolerance interval, add and subtract one <i>half</i> of the <i>precision</i> of the measuring instrument. | <p>The ruler has a precision of 0.1 cm. The tolerance interval in this measurement is:</p> <p style="text-align: center;">1.4 ± 0.05 cm or from 1.35 to 1.45 cm</p>  |
| <p>tonne (t)</p> | <ul style="list-style-type: none"> A <i>unit of measurement</i> for mass equal to 1000 kilograms. | <p>The humpback whale can weigh 58 tonnes.</p> |
| <p>top view</p> | <ul style="list-style-type: none"> What you see of an object looking from a top <i>perspective</i>. <i>Three-dimensional</i> objects have 3 views: front, top and side. |  |
| <p>total</p> | <ul style="list-style-type: none"> The whole lot. The <i>sum</i> of two or more quantities. | <p>The total of 2 and 7 and 3 is 12: $2 + 7 + 3 = 12$</p> |
| <p>total surface area (TSA)</p> | <ul style="list-style-type: none"> The complete <i>area</i> of the exterior surface of a <i>solid</i>. | <p>The TSA of a rectangular box is $2lw + 2lh + 2wh$</p>  |
| <p>transformation</p> | <ul style="list-style-type: none"> A movement of a shape in a <i>coordinate plane</i>. Types of transformations are <i>translations</i>, <i>reflections</i> and <i>rotations</i>. | <p>See <i>translation</i>, <i>reflection</i> and <i>rotation</i></p> |

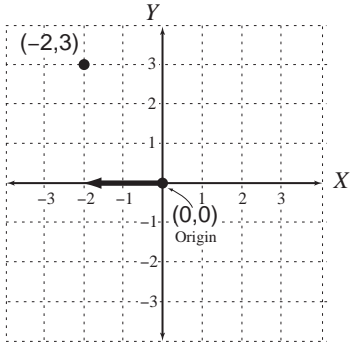
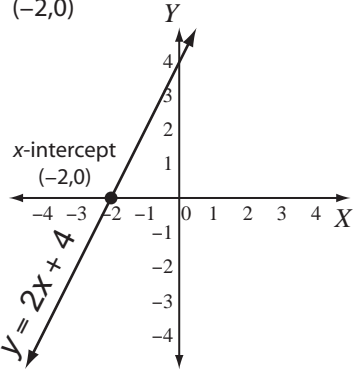
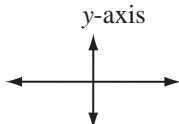
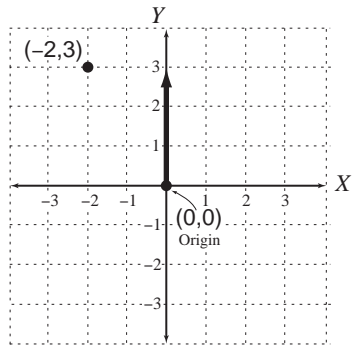
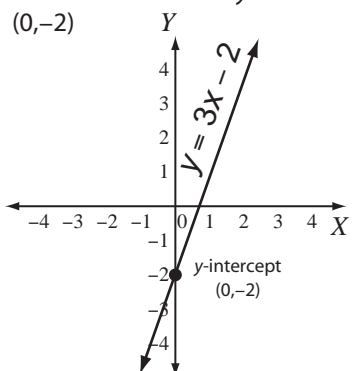
| | | | |
|------------------------------|---|-------------------------|--|
| translation | <ul style="list-style-type: none"> • A movement that <i>slides</i> a shape. Each <i>point</i> of the shape is moved the same distance, in the same direction, to produce a shape that is <i>congruent</i> to the original one. | | Shape B is a translation of shape A.  |
| transversal | <ul style="list-style-type: none"> • A <i>line</i> that crosses a pair of <i>parallel lines</i>. | | Line \overleftrightarrow{AB} is a transversal.  |
| trapezium | <ul style="list-style-type: none"> • A <i>quadrilateral</i>. Two <i>opposite sides</i> are <i>parallel</i>. | |  |
| tree diagram | <ul style="list-style-type: none"> • A tree diagram displays all the possible <i>outcomes</i> of an <i>event</i>. | | <p>Event: Tossing 2 coins</p> <pre> / \ H T / \ / \ H T H T </pre> <p>1st Coin H T</p> <p>2nd coin H T H T</p> <p>When tossing 2 coins there are 4 possible outcomes (branches): HH, HT, TH, TT</p> |
| trend line | <ul style="list-style-type: none"> • A straight or curved <i>line</i> which is closest to all the <i>data points</i> in a <i>scatter plot</i> and gives the best approximation to the trend of the <i>set</i> of data. | | Line B is a line of best fit, being closest to all the data points.  |
| tri | <ul style="list-style-type: none"> • Prefix meaning three. | | A tricycle has 3 wheels.  |
| trial and error | <ul style="list-style-type: none"> • To try repeatedly and learn from mistakes. | | This sum can be solved using trial and error. $\begin{array}{r} \text{TWO} \\ + \text{TWO} \\ \hline \text{FOUR} \end{array}$ |
| triangle | <ul style="list-style-type: none"> • A <i>polygon</i> with 3 straight <i>sides</i>. | | |
| triangle | <i>Interior angles</i> | <i>Sides</i> | <i>Diagram</i> |
| <i>Right-angled triangle</i> | 1 right angle | |  |
| <i>Scalene triangle</i> | 0 equal angles | 0 sides of equal length |  |
| <i>Isosceles triangle</i> | 2 equal angles | 2 sides of equal length |  |
| <i>Equilateral triangle</i> | 3 equal angles | 3 sides of equal length |  |

| triangular prism | <ul style="list-style-type: none"> A <i>three-dimensional</i> shape. Two identical triangular <i>bases</i>. Three rectangular faces. |  | | | | | | | | | | | | | | | | | | | | | |
|------------------------------|---|--|-----|-----|---------|--|--|--|---|---|---|---|------|---|-----|-----|-----|-----|---|-----|-----|-----|-----|
| triangular pyramid | <ul style="list-style-type: none"> A <i>three-dimensional</i> shape. One triangular <i>base</i>. The other three faces are <i>triangles</i>. |  | | | | | | | | | | | | | | | | | | | | | |
| trigonometric ratios | <ul style="list-style-type: none"> There are three main trigonometric ratios, <i>sine</i>, <i>cosine</i> and <i>tangent</i>. | See SOH - CAH - TOA | | | | | | | | | | | | | | | | | | | | | |
| trigonometry | <ul style="list-style-type: none"> A branch of Mathematics where the relationship between the <i>sides</i> and <i>angles</i> of a <i>right-angled triangle</i> are studied. It involves the <i>functions</i> of <i>sine</i>, <i>cosine</i> and <i>tangent</i>. | See SOH - CAH - TOA  | | | | | | | | | | | | | | | | | | | | | |
| trinomial | <ul style="list-style-type: none"> A <i>polynomial</i> with three <i>terms</i>. | $a + 2b + c$ $g^2 + 3gh - 2g$ $x^3 + 3x^2 + 8$ are all trinomials. | | | | | | | | | | | | | | | | | | | | | |
| triple | <ul style="list-style-type: none"> Multiply by three. | Children $\times 3 =$ triplets!  | | | | | | | | | | | | | | | | | | | | | |
| turn | <ul style="list-style-type: none"> To <i>rotate</i> about a point. |  | | | | | | | | | | | | | | | | | | | | | |
| twenty-four hour time | <ul style="list-style-type: none"> Time told in 24 hour lots using 4 <i>digits</i>. | Nine thirty am is 0930 or 09:30 Two thirty pm is 1430 or 14:30 | | | | | | | | | | | | | | | | | | | | | |
| twice | <ul style="list-style-type: none"> Two times. | Sam has \$5 and Jo has \$10. Jo has twice as much as Sam. | | | | | | | | | | | | | | | | | | | | | |
| two-dimensional (2D) | <ul style="list-style-type: none"> Able to be measured in 2 <i>directions</i> (<i>length</i> and <i>width</i>). |  | | | | | | | | | | | | | | | | | | | | | |
| two-way table | <ul style="list-style-type: none"> A table that shows the combinations of possible outcomes and their values. | Possible outcomes when spinning a spinner labelled 1, 2, 3, 4 and flipping a coin. <table border="1" data-bbox="1173 1982 1532 2105"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="4">Spinner</th> </tr> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <th rowspan="2">Coin</th> <th>H</th> <td>H,1</td> <td>H,2</td> <td>H,3</td> <td>H,4</td> </tr> <tr> <th>T</th> <td>T,1</td> <td>T,2</td> <td>T,3</td> <td>T,4</td> </tr> </tbody> </table> | | | Spinner | | | | 1 | 2 | 3 | 4 | Coin | H | H,1 | H,2 | H,3 | H,4 | T | T,1 | T,2 | T,3 | T,4 |
| | | Spinner | | | | | | | | | | | | | | | | | | | | | |
| | | 1 | 2 | 3 | 4 | | | | | | | | | | | | | | | | | | |
| Coin | H | H,1 | H,2 | H,3 | H,4 | | | | | | | | | | | | | | | | | | |
| | T | T,1 | T,2 | T,3 | T,4 | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|----------|------------|-------------|--------|------------|-------------|---|---|---|---|-----|---|---|
| unit | • One. | The unit of measurement for length is metre (m) | | | | | | | | | | | | | | |
| units | • The <i>place value</i> before the decimal point between the <i>tens</i> and <i>tenths</i> . | 1825.763 has 5 units. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>thousands</td> <td>hundreds</td> <td>tens</td> <td>units</td> <td>tenths</td> <td>hundredths</td> <td>thousandths</td> </tr> <tr> <td>1</td> <td>8</td> <td>2</td> <td>5</td> <td>• 7</td> <td>6</td> <td>3</td> </tr> </table> | thousands | hundreds | tens | units | tenths | hundredths | thousandths | 1 | 8 | 2 | 5 | • 7 | 6 | 3 |
| thousands | hundreds | tens | units | tenths | hundredths | thousandths | | | | | | | | | | |
| 1 | 8 | 2 | 5 | • 7 | 6 | 3 | | | | | | | | | | |
| units of measurement | • Standard amount or quantity. | See <i>cubic unit</i> and <i>square unit</i> . | | | | | | | | | | | | | | |
| unit | <i>Abbreviation</i> | <i>Examples</i> | <i>Used for measuring.....</i> | | | | | | | | | | | | | |
| • millimetre | mm | thickness of a plank of wood | LENGTH distance - length, width, height, diameter, perimeter | | | | | | | | | | | | | |
| • centimetre | cm | width of a photo frame | | | | | | | | | | | | | | |
| • metre | m | length of a lap of a stadium | | | | | | | | | | | | | | |
| • kilometre | km | distance between two cities | | | | | | | | | | | | | | |
| • gram | g | weight of an egg | MASS weight - people, animals, objects | | | | | | | | | | | | | |
| • kilogram | kg | weight of a bag of apples | | | | | | | | | | | | | | |
| • tonne | t | weight of an elephant | | | | | | | | | | | | | | |
| • millilitre | mL | liquid in a can | CAPACITY (Liquid Volume) quantity - liquids | | | | | | | | | | | | | |
| • litre | L | liquid in a bucket | | | | | | | | | | | | | | |
| • megalitre | ML | liquid in a water tower | | | | | | | | | | | | | | |
| • square centimetre | cm ² | area of a Maths book cover | AREA surface - objects, territories (countries, continents, oceans) | | | | | | | | | | | | | |
| • square metre | m ² | area of the gym floor | | | | | | | | | | | | | | |
| • square kilometre | km ² | area of Tasmania | | | | | | | | | | | | | | |
| • cubic centimetre | cm ³ | volume of water in a fish tank | VOLUME quantity - air, water | | | | | | | | | | | | | |
| • cubic metre | m ³ | volume of air in a warehouse | | | | | | | | | | | | | | |
| universal set (ξ) | <ul style="list-style-type: none"> • A group of items that consists of all the <i>elements</i> under consideration. • The symbol for universal set is ξ. | $\xi = \{0, 1, 2, 3, 4, 5, 6, 7, 8, 9\}$  | | | | | | | | | | | | | | |
| unlike terms | <ul style="list-style-type: none"> • Are <i>terms</i> that contain different <i>pronumerals</i> raised to the different <i>powers</i>. Unlike terms cannot be <i>added</i> or <i>subtracted</i> however they may be <i>multiplied</i> and <i>divided</i> . | Opposite to <i>like terms</i> . $7, 6a$ and $-4y^3$ are not like terms. $5w, \frac{6}{w}$ and $-18w^2$ are not like terms. | | | | | | | | | | | | | | |

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| <p>upper quartile (UQ)</p> | <ul style="list-style-type: none"> • Is the <i>median</i> of the upper half of scores in a set of <i>data</i>. • 25% of the data lies above this number. | <p>Data: 2, 2, 3, 3, 4, 5, 7, 8, 9, 9</p> <p>The upper quartile (UQ) is 8.</p> <p>See <i>box-and-whisker plot</i>.</p> |
| <p>valid</p> | <ul style="list-style-type: none"> • Grounded in <i>logic</i> or truth. | <p>If A causes B and B causes C then it is valid to propose that A may cause C.</p> |
| <p>variable</p> | <ul style="list-style-type: none"> • A <i>pronumeral</i> that can take on different values. • Is represented by a letter of the alphabet. | <p>Opposite to a <i>constant</i>.</p> <p>In $y = x + 5$ 5 is constant x and y are variables.</p> |
| <p>Venn diagram</p> | <ul style="list-style-type: none"> • A diagram using <i>circles</i> to show the relationship between <i>sets</i> of objects. |  |
| <p>vertex</p> | <ul style="list-style-type: none"> • (pl. vertices) The point at which two <i>sides</i> (of a <i>polygon</i>) or three <i>edges</i> (of a <i>solid</i>) meet. |  <p>Polygon Solid</p> |
| <p>vertex in a network</p> | <ul style="list-style-type: none"> • A <i>point</i> in a network. A vertex can either be <i>odd</i> or <i>even</i> depending on the number of <i>arcs</i> (paths) leading to it. | <p>Odd vertex - 3 arcs</p>  <p>Even vertex - 4 arcs</p>  |
| <p>vertical line</p> | <ul style="list-style-type: none"> • A <i>line</i> at a <i>right angle</i> to the horizon. |  |
| <p>vertical symmetry</p> | <ul style="list-style-type: none"> • A shape has vertical symmetry if an <i>axis of symmetry</i> is vertical. |  |
| <p>vertically opposite angles</p> | <ul style="list-style-type: none"> • <i>Angles</i> on opposite sides of a <i>pair of intersecting lines</i>. • Vertically opposite angles are <i>congruent</i>. | <p>All vertically opposite angles are equal in a pair of intersecting lines.</p>  |

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| <p>volume</p> | <ul style="list-style-type: none"> The amount of space that a <i>solid</i> occupies. Volume is measured in <i>cubic units</i>. e.g. cubic centimetres (cm^3) or cubic metres (m^3). | <p>Volume of a rectangular prism is calculated by multiplying length by width by height:</p> $V = lwh$ $= 4 \times 2 \times 3$ $= 24$ <p>Volume = 24 cubic units</p>  |
| <p>week</p> | <ul style="list-style-type: none"> A <i>unit of time</i> equal to 7 days; Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday. | <p>Roger was on holidays for one week (seven days).</p> |
| <p>weight</p> | <ul style="list-style-type: none"> The heaviness of an object. Equals the <i>mass</i> of an object times the force of gravity. This means that weight changes with any change in gravity. | <p>A 3 kg brick weighs: 3 kg on Earth, about 0.5 kg on the moon, 0 kg in outer space.</p> |
| <p>west</p> | <ul style="list-style-type: none"> A <i>compass direction</i>. | <p>The sun sets in the west.</p>  |
| <p>whole numbers</p> | <ul style="list-style-type: none"> The <i>counting numbers</i> from zero to <i>infinity</i>. | <p>0, 1, 2, 3, 4, 5, are whole numbers.</p> |
| <p>width</p> | <ul style="list-style-type: none"> How wide an object is. The sideways <i>dimension</i>. | <p>The width of the CD is 12 cm.</p>  |
| <p>x-axis</p> | <ul style="list-style-type: none"> The <i>horizontal axis</i>. |  |

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| <p>x-coordinate</p> | <ul style="list-style-type: none"> The <i>first</i> number in an ordered pair. <p>The position of a <i>point</i> along the <i>x-axis</i>.</p> | <p>The x-coordinate of the ordered pair $(-2,3)$ is -2.</p>  |
| <p>x-intercept</p> | <ul style="list-style-type: none"> The point at which a graph crosses the <i>x-axis</i>. | <p>This line crosses the <i>x-axis</i> at $(-2,0)$</p>  |
| <p>y-axis</p> | <ul style="list-style-type: none"> The <i>vertical axis</i>. |  |
| <p>y-coordinate</p> | <ul style="list-style-type: none"> The <i>second</i> number in an ordered pair. <p>The position of a <i>point</i> along the <i>y-axis</i>.</p> | <p>The y-coordinate of the ordered pair $(-2,3)$ is 3.</p>  |
| <p>y-intercept</p> | <ul style="list-style-type: none"> The <i>point</i> at which a <i>graph</i> crosses the <i>y-axis</i>. | <p>This line crosses the <i>y-axis</i> at $(0,-2)$</p>  |
| <p>year</p> | <ul style="list-style-type: none"> A <i>unit</i> of <i>time</i> equal to 365 days. (366 in a leap year). | <p>1st of January to the 31st of December.</p> |

