

### 3. [× Whole Numbers to 12]

#### Skill 3.1 Multiplying whole numbers from 1 to 12.

MM4.2 11 22 33 44  
MM5.1 11 22 33 44

- Find one of the numbers to be multiplied across the top row.
- Find the other number to be multiplied down the left hand side column.
- Follow the line of each number until they intersect at their product.

Example: The product of 3 and 9 is 27

$$3 \times 9 = 27$$

$$\text{Since } 3 \times 9 = 9 \times 3 = 27$$

multiplication tables are symmetrical.

Hint: This means you only need to learn half of your times tables.

MULTIPLICATION TABLE

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

Q.

	3	12	9	7	4	5	10	8	6	11
× 9										

Multiply each of the numbers in the top row by 9.

A.

	3	12	9	7	4	5	10	8	6	11
× 9	27	108	81	63	36	45	90	72	54	99

a)

	4	8	11	10	5	6	1	7	9	2
× 4	16									

b)

	1	5	10	7	4	9	12	8	3	6
× 2										

c)

	8	10	2	7	9	3	11	5	6	4
× 10										

d)

	2	4	8	5	7	6	12	9	11	3
× 8										

e)

	10	4	3	6	2	5	7	8	12	9
× 12										

- Find one of the numbers to be multiplied across the top row.
- Find the other number to be multiplied down the left hand side column.
- Follow the line of each number until they intersect at their product.
- Then apply the multiplication rules.

MULTIPLICATION TABLE

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

**Multiplication Rules**

different signs: positive × negative = negative  
negative × positive = negative

Example:

The product of negative 3 and 6 is negative 18

$$-3 \times 6 = -18$$

$$\text{Since } -3 \times 6 = 6 \times -3 = -18$$

multiplication tables are symmetrical.

Q.

	-3	7	9	-11	5	-4	2	-10	-8	12
× 6										

Multiply each of the numbers in the top row by 6.

A.

	-3	7	9	-11	5	-4	2	-10	-8	12
× 6	-18	42	54	-66	30	-24	12	-60	-48	72

Use the rule:  
A negative number multiplied by a positive number results in a negative number.

a)

	3	-5	8	-7	-11	6	2	-4	12	9
× 3	9	-15								

b)

	7	-4	-2	3	8	-5	9	1	6	-10
× 5	35									

c)

	-6	2	11	-5	10	8	-4	9	-7	1
× 11										

d)

	-7	3	-1	-2	9	-6	10	5	-8	4
× 4										

e)

	2	-7	9	-5	3	6	-12	10	-4	8
× 7										

f)

	-12	3	8	-4	-7	-9	5	11	10	-6
× 9										