

# Wednesday 13<sup>th</sup> May – Multiplication – Reasoning

Use your knowledge and this week's learning of multiplication to solve the following reasoning problems:

X	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

Example:

Column Method  $12 \times 24 = 288$

$$\begin{array}{r}
 12 \\
 \times 24 \\
 \hline
 48 \quad \leftarrow 12 \times 4 \\
 + 240 \quad \leftarrow 12 \times 20 \\
 \hline
 288 \quad \leftarrow \text{answer}
 \end{array}$$

1.

I know... so...

$$24 \times 18 = 432$$

$$25 \times 18 = \underline{\hspace{2cm}}$$

$$25 \times 17 = \underline{\hspace{2cm}}$$

2.

2b. Tomas is thinking of a number...



I multiply the number by 22. The answer is less than 400 but greater than 350.

What could Tomas' number be?

3.

... Hallie solves the following multiplication.



$$\begin{array}{r}
 74 \\
 \times 47 \\
 \hline
 518 \\
 2960 \\
 \hline
 2478
 \end{array}$$

Is she correct? Explain why.

4.

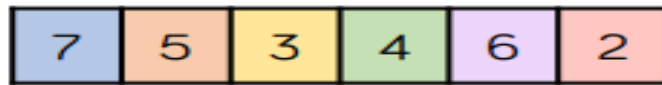
How many ways?

Complete using digits 0-9. Position the digit 1 as shown.

$$\boxed{\phantom{0}} \boxed{\phantom{0}} \times \boxed{\phantom{0}} = \boxed{\phantom{0}} \boxed{\phantom{0}} \boxed{1}$$

5.

Make the target number of 84 using three of the digits below.



$$\square \times \square \times \square = 84$$

Multiply the remaining three digits together, what is the product of the three numbers?

Is the product smaller or larger than 84?

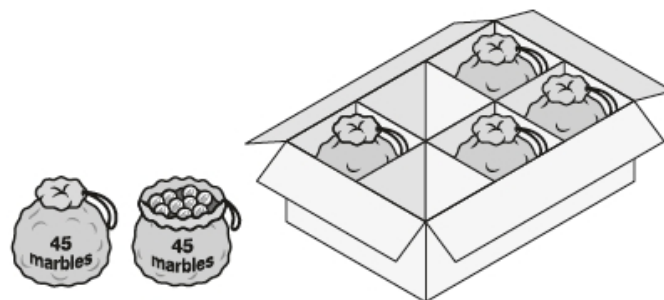
Can you complete this problem in more than one way?

6.

A toy shop orders 11 boxes of marbles.

Each box contains 6 bags of marbles.

Each bag contains 45 marbles.



How many **marbles** does the shop order in total?