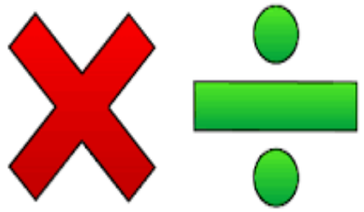
MULTIPLICATION and DIVISION KNOWLEDGE ORGANISER

Year 5

Assisi Catholic Trust

Love of Learning

Overview



MULTIPLICATION

DIVISION

In our unit of multiplication and division we learn to use:

-Multiples -Factors -Common Factors

-Prime Numbers -Square Numbers -Cube Numbers

-Multiply and Divide by 10, 100, and 1,000.

-Multiples of 10, 100 and 1,000.

-Multiply/ divide 4 digits by 1 digit -Divide with Remainders

Multiplication and Division is useful learning because it is used in many areas of everyday life – e.g. shopping, cooking, or playing games. It also forms the basis for fractions too!

Written Multiplication and Division Methods

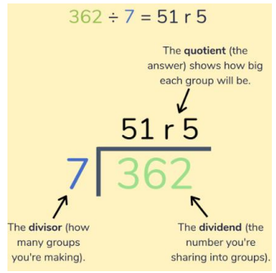
Short Multiplication

6425 x 7 = 44975

4 2 1 3

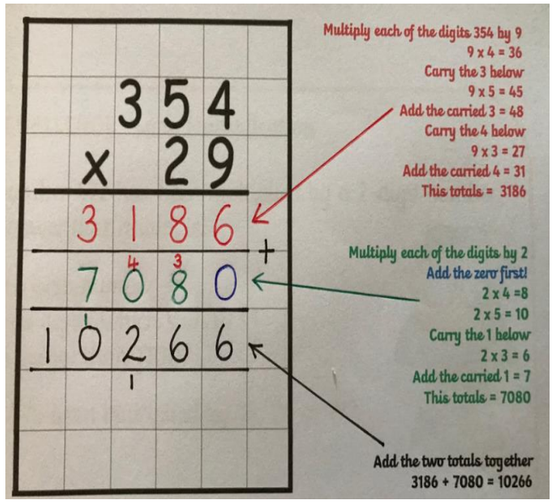
-Move regrouped numbers to the next column. After the next multiplication, add the regrouped number.

Short Division



Remember to record remainders after the letter 'r'.

Long Multiplication



Times Tables/ Multiplying & Dividing by 10, 100, 1000/ Squared & Cubed Numbers

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

Multiplying and Dividing by 10, 100 and 1000

10 000	1000	100	10	1	$\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$
				●			

Multiplying

X 10 digits move LEFT 1 space
X 100 digits move LEFT 2 spaces
X 1000 digits move LEFT 3 spaces

Dividing

÷ 10 digits move RIGHT 1 space
÷ 100 digits move RIGHT 2 spaces
÷ 1000 digits move RIGHT 3 spaces

5 x 10 = 50 5 x 100 = 500 5 x 1000 = 5000

5000 ÷ 10 = 500 5000 ÷ 100 = 50

5000 ÷ 1000 = 5

Squared Numbers

2^2

1	2
3	4

2x2=4

Cubed Numbers

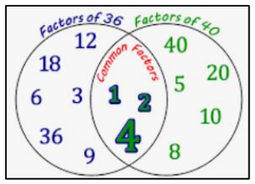
2 x 2 x 2 = 8

2^3 = 8

Factors, Prime Numbers and Related Calculations

Factors: A factor is a number that you multiply with another number to get a product. A product is the solution to a multiplication problem.

The factors of 24 are 1, 2, 3, 4, 6, 8, 12 and 24. These numbers can be multiplied with another to make 24.



Common factors are factors of 2 or more numbers. e.g. the common factors of 36 and 40 are 1, 2 and 4.

Prime Numbers: Prime numbers can only be divided by itself and 1. There are no other factors.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

Related Calculations

8 x 8 = 64	64 ÷ 8 = 8
8 x 80 = 640	640 ÷ 8 = 80

Key Vocabulary

Times Tables | Multiply | Divide | Share | Remainder | Factor | Multiple | Product | Formal Methods | Prime Number