

Multiplication and Division

Knowledge Organiser

Key Vocabulary

multiply
groups of
lots of
times
divide
share
remainder
factor
multiple
product

Factors

A factor is a number that divides into another number exactly, without leaving a remainder.

A common factor is a factor of 2 or more numbers.

The factors of 20 are 1, 2, 4, 5, 10 and 20.

The factor pairs are:
 1 and 20
 2 and 10
 4 and 5

Prime Numbers

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
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Squared² and Cubed³ Numbers

<p>$2^2 = 4$ $2 \times 2 = 4$</p>	<p>$2^3 = 8$ $2 \times 2 \times 2 = 8$</p>	<p>$5^2 = 25$ $5 \times 5 = 25$</p>	<p>$5^3 = 125$ $5 \times 5 \times 5 = 125$</p>
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Related Calculations

$8 \times 9 = 72$	$9 \times 8 = 72$
$80 \times 9 = 720$	$90 \times 8 = 720$
$72 \div 9 = 8$	$72 \div 8 = 9$
$720 \div 9 = 80$	$720 \div 8 = 90$

Short Multiplication

$$2543 \times 7 = 17801$$

	2	5	4	3
×				7
1	7	8	0	1
1	3	3	2	

Remember to move any regrouped digits into the next column. After the next multiplication, add the regrouped number to the answer.

Long Multiplication

$$2543 \times 67 = 170381$$

		2	5	4	3
	×			6	7
	1	7	8	0	1
	1	3	3	2	
1	5	2	5	8	0
1	3	2	1		
1	7	0	3	8	1
1	1				

Before multiplying by the number in the tens column, remember to use zero as a placeholder because the 6 in 67 is 6 tens (60).

Division

$$136 \div 4 = 34$$

		3	4
4	1	3	6
-	1	2	0
		1	6
	-	1	6
			0

→ 30×4

→ 4×4



Short Division

		3	8
4	1	¹ 5	³ 2

$15 \div 4 = 3$ remainder 3
Remember to regroup any remainders and move them into the next column.

		4	5	5	r	3
5	2	2	² 7	² 8		

$28 \div 5 = 5$ remainder 3
If your calculation has a remainder, remember to record it in the answer using the letter **r**.