

Multiplication and Division

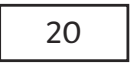
Knowledge Organiser

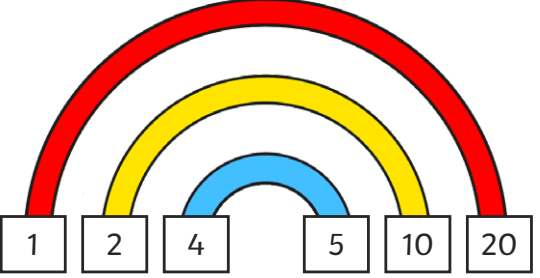
Key Vocabulary

- multiply
- groups of
- lots of
- times
- divide
- share
- remainder

Factors

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

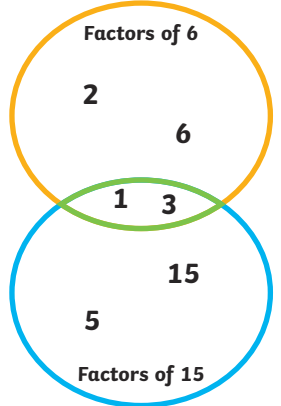




The factors of 20 are 1, 2, 4, 5, 10 and 20.

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

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

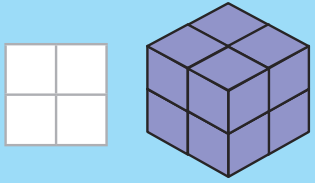


Prime Numbers

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

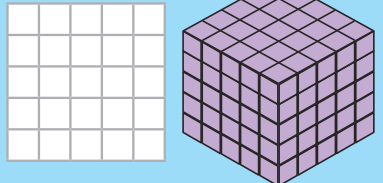
factor

Squared² and Cubed³ Numbers



$2^2 = 4$
 $2 \times 2 = 4$

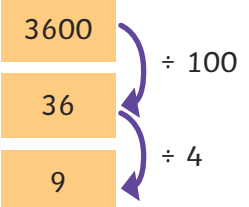
$2^3 = 8$
 $2 \times 2 \times 2 = 8$



$5^2 = 25$
 $5 \times 5 = 25$

$5^3 = 125$
 $5 \times 5 \times 5 = 125$

Related Calculations

$8 \times 9 = 72$	$9 \times 8 = 72$	$3600 \div 400 = 9$ 
$80 \times 9 = 720$	$90 \times 8 = 720$	
$72 \div 9 = 8$ $720 \div 9 = 80$	$72 \div 8 = 9$ $720 \div 8 = 90$	
$724 \times 10 = 7240$ $724 \times 100 = 72400$ $724 \times 1000 = 724000$	$486000 \div 10 = 48600$ $486000 \div 100 = 4860$ $486000 \div 1000 = 486$	

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	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).

Short Division

		3	8
4	1	¹ 5	³ 2

$$15 \div 4 = 3 \text{ remainder } 3$$

Remember to regroup any remainders and move them into the next column.

		4	5	5	r	3
5	2	² 2	² 7	² 8		

$$28 \div 5 = 5 \text{ remainder } 3$$

If your calculation has a remainder, remember to record it in the answer using the letter **r**.

Division

$$136 \div 4 = 34$$

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

→ 30 × 4

→ 4 × 4