

Adding, subtracting, multiplying and dividing fractions

$$\frac{3}{4} \times \frac{2}{3} = \frac{6}{12}$$

$\frac{1}{3} + \frac{1}{6}$  +

$\frac{1}{3} \times 2 + \frac{1}{6} \times 2$

$\frac{2}{6} + \frac{1}{6}$

Simplifying fractions

$\div 3 = \frac{3}{5}$

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Using scale factors

2 people	1 person	5 people
6 eggs	$6 \div 2 = 3$ eggs	$3 \times 5 = 15$ eggs
100g flour	$100 \div 2 = 50$ g	$50 \times 5 = 250$ g

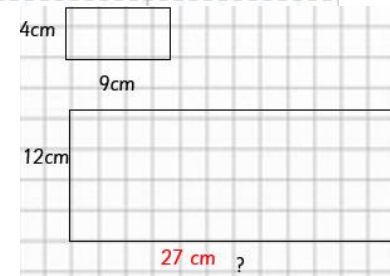
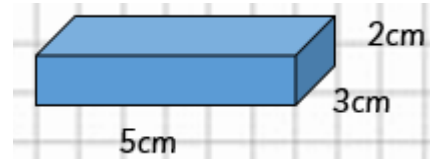
Finding a fraction or a percentage of a number

$\frac{3}{4}$  of 48

$48 \div 4 = 12$   
 dividing by 4 finds one quarter.

$12 \times 3 = 36$   
 multiplying by 3 finds 3 quarters

Calculating volume



Using algebraic rules

1st term:	$5 \times 1 - 4 = 1$
2nd term:	$5 \times 2 - 4 = 6$
3rd term:	$5 \times 3 - 4 = 11$
4th term:	$5 \times 4 - 4 = 16$
5th term:	$5 \times 5 - 4 = 21$

Using known facts

If  $3 \times 2 = 6$ , then  
 $3 \times 20 = 60$   
 $30 \times 2 = 60$   
 $30 \times 20 = 600$

Calculating ratio

A prize is shared in a ratio of 3 : 4 between Jamie and Dan. If Jamie gets £21, how much will Dan get?

Jamie : Dan  
 3 : 4  
 $\times 7$   $\rightarrow$  21 : 28  $\leftarrow \times 7$

Why are times tables useful?

Converting between mixed and improper fractions

$1 \frac{3}{4} = \frac{7}{4}$   
 (1 is added, 3/4 is multiplied)

Convert between miles and kilometres

To convert km to miles:

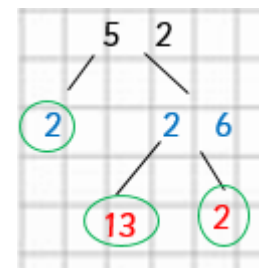
$5 \text{ miles} = 8 \text{ km}$   
 $30 \text{ miles} = 48 \text{ km}$

1) Divide by 8 ( $48 \div 8 = 6$ )  
 2) Multiply by 5 ( $6 \times 5 = 30$ )

Short and long division

$5 \overline{) 125}$   
 25

Finding prime factors



Factors and common factors

4	8	3	6
1 x 4	8	1 x 3	6
2 x 2	4	2 x 1	8
3 x 1	6	3 x 1	2
4 x 1	2	4 x 1	9
6 x 1	8	6 x 1	6

Square and cube numbers

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

$4^2 = 4 \times 4 = 16$

$3^3 = 3 \times 3 \times 3 = 27$

Finding equivalent fractions

$\frac{2}{3} \times 4 = \frac{8}{12}$

$\frac{3}{4} \times 3 = \frac{9}{12}$

Identifying prime and composite numbers

A prime number is a whole number greater than 1 with no divisors except 1 and itself.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

Multiples and common multiples

Multiples of 3: 3, 6, 9, 12, 18, 21, 24  
 Multiples of 4: 4, 8, 12, 16, 20, 24, 28, 32

Ordering and comparing fractions

$\frac{2}{3} \times 4 = \frac{8}{12}$

$\frac{3}{4} \times 3 = \frac{9}{12}$

$\frac{8}{12} < \frac{9}{12}$

Short and long multiplication

$853 \times 6 = 5118$   
 $853 \times 32 = 27296$

