




MATHS FACTS

SYMBOLS

| | | | |
|---|------------------------------------|---|--|
| + | plus or add | • | decimal point as in 7.9 |
| − | minus or subtract | ² | squared, 6 ² is 6 × 6 |
| × | multiplied by, times, lots of | √ | square root, √9 is 3 |
| ÷ | divided by, into groups of | () | parentheses, or brackets - a grouping symbol |
| = | equals, is equal to | $\frac{4}{7}$ | fraction, 4 ÷ 7, four sevenths |
| ≠ | is not equal to |  | right angle |
| ≈ | is approximately equal to |  | parallel lines |
| < | is less than, 4 < 6 |  | lines of equal length |
| > | is greater than, 8 > 5 | | |
| ≤ | is less than or equal to | | |
| ≥ | is greater than or equal to | | |
| % | percentage, 12% = $\frac{12}{100}$ | | |

CONVERSIONS

Length

10 millimetres (mm) = 1 centimetre (cm)

100 cm = $\left. \begin{array}{l} \\ \\ \end{array} \right\} 1 \text{ metre (m)}$

1000 mm = $\left. \begin{array}{l} \\ \\ \end{array} \right\} 1 \text{ metre (m)}$

1000 m = 1 kilometre (km)

Area

100 square mm (mm²) = 1 square cm (cm²)

10 000 cm² = 1 square metre (m²)

10 000 m² = 1 hectare (ha)

Mass

1000 milligrams (mg) = 1 gram (g)

1000 g = 1 kilogram (kg)

1000 kg = 1 tonne (t)

Liquid Capacity

1000 millilitres (mL) = 1 litre (L)

1000 L = 1 kilolitre (kL)

1000 kL = 1 megalitre (ML)

Time

60 seconds (s) = 1 minute (min)

60 minutes (min) = 1 hour (h)

24 hours (h) = 1 day

7 days = 1 week

2 weeks = 1 fortnight

4 weeks (approx.) = 1 month

365 = $\left. \begin{array}{l} \\ \\ \end{array} \right\} 1 \text{ year}$

52 weeks (approx.) = $\left. \begin{array}{l} \\ \\ \end{array} \right\} 1 \text{ year}$

12 months = $\left. \begin{array}{l} \\ \\ \end{array} \right\} 1 \text{ year}$

366 days = 1 leap year

10 years = 1 decade

100 years = 1 century

Temperature - degrees Celcius (°C)

0°C = freezing point of water

100°C = boiling point of water

37°C = human body temperature

ZERO

Adding and subtracting 0

Adding and subtracting 0 to any number leaves the number unchanged.

$$3 + 0 = 3$$

$$3 - 0 = 3$$

$$2.5 + 0 = 2.5$$

$$2.5 - 0 = 2.5$$

$$\frac{4}{9} + 0 = \frac{4}{9}$$

$$\frac{4}{9} - 0 = \frac{4}{9}$$

0 used in decimals

0's can be added when needed after the last digit and the decimal point.

$$4 = 4.000$$

0's can be added when needed before the first digit of the decimal number.

$$4 = 4.0 = 0004.0$$

By convention, decimal numbers less than 1 are written with a 0 before the decimal point.

$$.4 = 0.4$$

0 as a probability

When the probability of an event is 0, the event is 'impossible'.

0 in words

Some of the words used to represent 0 are: nought, nil, none, nothing, zilch, zip.

Multiplying by 0

The product of any number and 0 is 0

$$7 \times 0 = 0$$

$$81.6 \times 0 = 0$$

$$\frac{3}{5} \times 0 = 0$$

Dividing by 0

Dividing by 0 is meaningless.

$4 \div 0$ and $\frac{3}{0}$ are meaningless operations.

Power of 0

Any number raised to the power of 0 is 1

$$1^0 = 1$$

$$(0.5)^0 = 1$$

$$(-24)^0 = 1$$

0 as the result of a sum

The sum of any number, except zero, and its opposite is 0

$$4 + (-4) = 0$$

$$2.6 + (-2.6) = 0$$

$$\frac{5}{8} + \left(-\frac{5}{8}\right) = 0$$

0 facts

0 is a whole number and a digit but is neither a positive nor a negative number.

ONE

Multiplying by 1

Any number multiplied by **1** remains unchanged.

$$3 \times 1 = 3$$

$$2.5 \times 1 = 2.5$$

$$\frac{4}{9} \times 1 = \frac{4}{9}$$

Dividing by 1

Any number divided by **1** remains unchanged.

$$7 \div 1 = 7$$

$$81.6 \div 1 = 81.6$$

$$\frac{3}{5} \div 1 = \frac{3}{5}$$

1 as a fraction

1 can be renamed as a fraction whenever the numerator is the same as the denominator.



$$1 = \frac{2}{2}$$



$$1 = \frac{3}{3}$$



$$1 = \frac{4}{4}$$



$$1 = \frac{5}{5}$$

1 as a probability

When the probability of an event is **1**, the event is 'certain' to happen.

1 as a denominator

Any whole number can be written as a fraction with denominator **1**

$$20 = \frac{20}{1}$$

1 in words

Some of the words used to represent **1** are: one, a, an, each, single, unit.

Power of 1

Any number raised to the power of **1** remains unchanged

$$7^1 = 7$$

$$(6.8)^1 = 6.8$$

$$(-4)^1 = -4$$

1 as a percentage

1 is the same as 100%.

$$1 = \frac{100}{100} = 100\%$$

1 as the result of a product

The product of any number, except zero, and its reciprocal is **1**

$$4 \times \frac{1}{4} = 1$$

1 facts

1 is a whole number and a digit but not a prime number.

1 is a factor of any whole number.