

Facts to Remember

Unit 7

$$1 \text{ m}^3 = 1000 \text{ litres}$$

$$1 \text{ tonne} = 1000 \text{ kg}$$

$$1 \text{ gallon} = 8 \text{ pints}$$

$$1 \text{ kg is about } 2.2 \text{ lbs}$$

$$1 \text{ gallon is about } 4.5 \text{ litres}$$

$$1 \text{ litre is about } 1.75 \text{ pints}$$

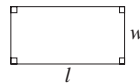
$$5 \text{ miles is about } 8 \text{ km}$$

$$1 \text{ inch is about } 2.5 \text{ cm}$$

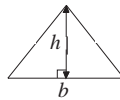
Square: Area = x^2



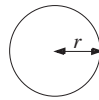
Rectangle: Area = lw



Triangle: Area = $\frac{1}{2}bh$

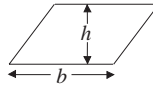


Circle: Area = πr^2

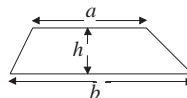


Circumference = $2\pi r$

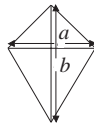
Parallelogram: Area = bh



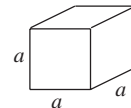
Trapezium: Area = $\frac{1}{2}(a+b)h$



Kite: Area = $\frac{1}{2}ab$

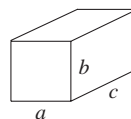


Cube: Volume = a^3



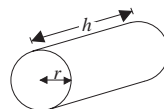
Surface area = $6a^2$

Cuboid: Volume = abc



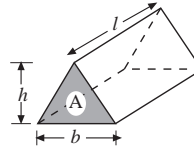
Surface area = $2(ab + bc + ca)$

Cylinder: Volume = πr^2h

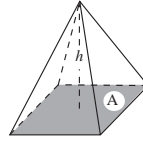


Surface area = $2\pi r^2 + 2\pi rh$

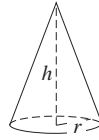
Prism: Volume = Al



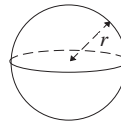
Pyramid: Volume = $\frac{1}{3}Ah$



Cone: Volume = $\frac{1}{3}\pi r^2 h$



Sphere: Volume = $\frac{4}{3}\pi r^3$



Surface area = $4\pi r^2$

Mass = Volume \times Density or Volume = $\frac{\text{Mass}}{\text{Density}}$

or Density = $\frac{\text{Mass}}{\text{Volume}}$

Units 8/9

The *mean* of a set of n numbers, x_1, x_2, \dots, x_n is given by

$$\text{mean} = \frac{x_1 + x_2 + \dots + x_n}{n}$$

The *median* of a set of numbers is the middle number when they have been put in order.

The *mode* is the number which occurs most frequently.

The *range* is the difference between the smallest and the largest numbers.

The *inter-quartile range* contains the middle 50% of the number.

Unit 10

Multiplication	Division
$+\times+\Rightarrow+$	$+\div+\Rightarrow+$
$+\times-\Rightarrow-$	$+\div-\Rightarrow-$
$-\times+\Rightarrow-$	$-\div+\Rightarrow-$
$-\times-\Rightarrow+$	$-\div-\Rightarrow+$

Unit 11 Equivalent fractions, decimals and percentages.

Fractions	Decimals	Percentages
$\frac{1}{10}$	0.1	10%
$\frac{1}{8}$	0.125	12.5%
$\frac{1}{5}$	0.2	20%
$\frac{1}{4}$	0.25	25%
$\frac{1}{3}$	$0.\dot{3}$	$33\frac{1}{3}\%$
$\frac{1}{2}$	0.5	50%
$\frac{2}{3}$	$0.\dot{6}$	$66\frac{2}{3}\%$
$\frac{3}{4}$	0.75	75%
1	1.0	100%

$$\text{Percentage increase} = \frac{\text{actual increase}}{\text{initial value}} \times 100\%$$

$$\frac{a}{b} \times \frac{c}{d} = \frac{a \times c}{b \times d} \qquad \frac{a}{b} \div \frac{c}{d} = \frac{a}{b} \times \frac{d}{c}$$

$$\text{For compound interest } A_n = \left(1 + \frac{r}{100}\right)^n A_0$$

Unit 12 A *linear* sequence is of the form:

$$u_n = dn + c \qquad n = 1, 2, 3, \dots \quad (d \text{ and } c \text{ are constants})$$

A *quadratic* sequence is of the form:

$$u_n = an^2 + bn + c \qquad n = 1, 2, 3, \dots \quad (a, b \text{ and } c \text{ are constants})$$