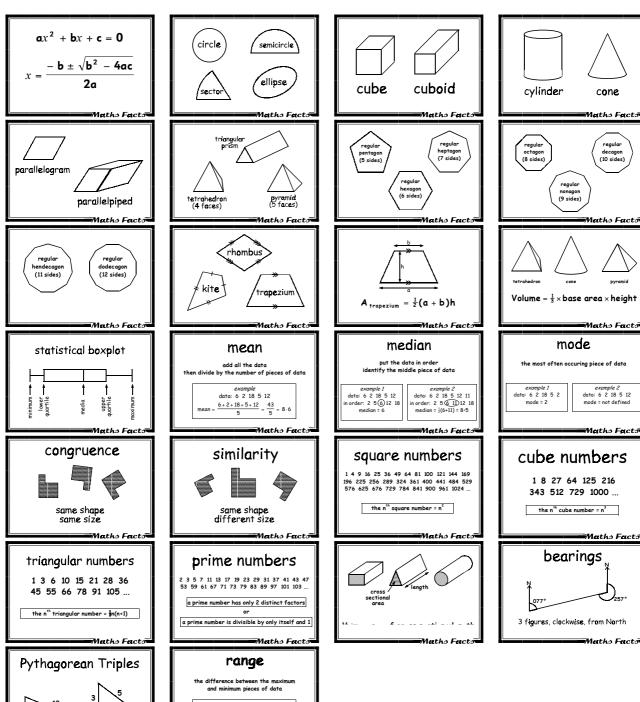
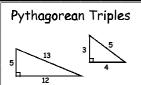
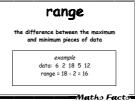
supplementary angles

1 km = 1000 metres 1 kg = 1000 grammes Matho Facto	1 litre = 1 000 ml 1 litre = 1 000 cm ³	length ↔ unit area ↔ unit² volume ↔ unit³	100 cm = 1m 10 000 cm ² = 1m ² 1 000 000 cm ³ = 1m ³
1 year = 365 days	12 inches = 1 foot 3 feet = 1 yard	1 inch = 2 · 54 cm 1 mile ≈ 1609 m	$\frac{1}{4} = 1 \div 4 = 0 \cdot 25$ $\frac{1}{8} = 1 \div 8 = 0 \cdot 125$ Matho Factor
$\frac{1}{3} = 1 \div 3 = 0 \cdot 33\dot{3}$ $\frac{1}{6} = 1 \div 6 = 0 \cdot 16\dot{6}$ Matho Factor	Circumference $C = \pi d C = 2\pi r$ $d r$ Matho Factor	Area = πr ² Phaths Factor	1 British Billion 1 000 000 000 000
1 American Billion 1 000 000 000	isosceles triangle	equilateral triangle	scalene triangle
SOH CAH TOA	$c^{3} = c \times c \times c$ $3c = c + c + c$ Mathe Factor	1 hr = 60 mins 0 · 1 hr = 6 mins	Matho Facto
1 Maths Facto	$\frac{x}{2} = \frac{1}{2}x$ Mathe Factor	12 · 5% = 0 · 125 6% = 0 · 06 117% = 1 · 17	$S = \frac{D}{T}$ $D = S \times T$ $D = S \times T$ Matho Factor
$ \begin{array}{c} a \\ b \end{array} $ $ \begin{array}{c} b^2 = c^2 - a^2 \end{array} $ Mathe Factor	Matho Facto	Maths Facts	Matho Facto
alternate angles	corresponding angles	vertically opposite angles	complementary angles







1 km = 1000 metres

1 kg = 10000 grammes

1 litre = 1000 ml

1 litre = 1000 cm³

length \Leftrightarrow unit

area \Leftrightarrow unit²

volume \Leftrightarrow unit³

 $100 \, \text{cm} = 1 \, \text{m}$

 $10\ 000\ cm^2 = 1m^2$

 $1000000cm^3 = 1m^3$

1 year = 365 days

12 inches = 1 foot

3 feet = 1 yard

 $1 inch = 2 \cdot 54 cm$

1 mile ≈ 1609 m

$$\frac{1}{4}=1\div 4=0\cdot 25$$

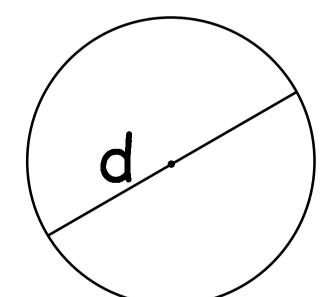
$$\frac{1}{8} = 1 \div 8 = 0 \cdot 125$$

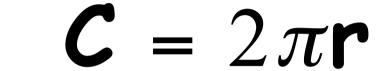
$$\frac{1}{3} = 1 \div 3 = 0 \cdot 333$$

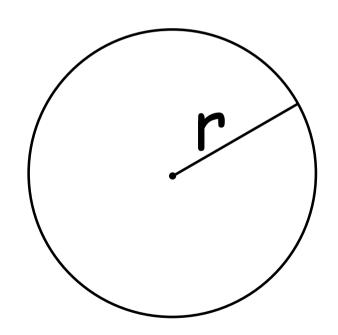
$$\frac{1}{6} = 1 \div 6 = 0 \cdot 166$$

Circumference

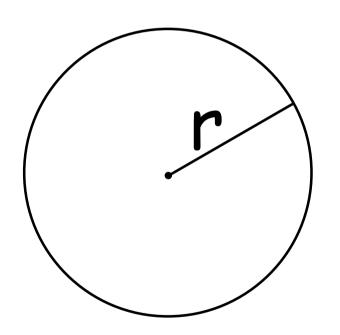
$$C = \pi d$$







Area = πr^2



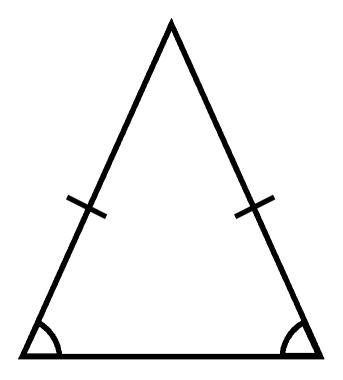
1 British Billion

1 000 000 000 000

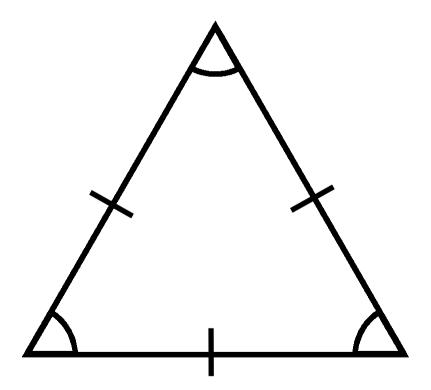
1 American Billion

1 000 000 000

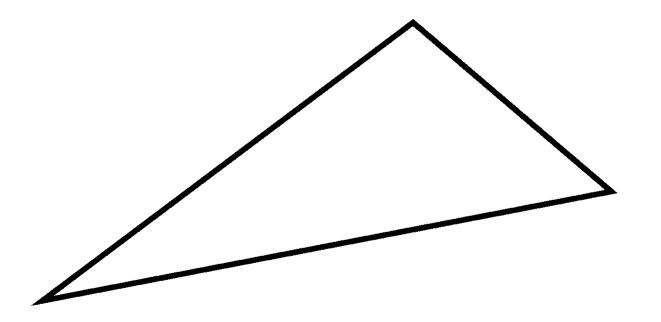
isosceles triangle



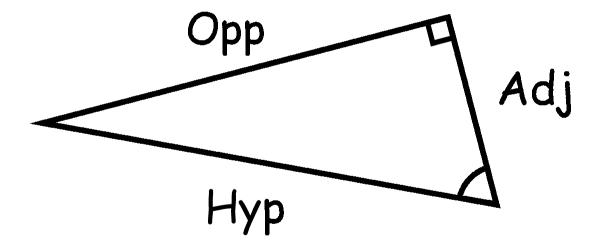
equilateral triangle



scalene triangle



SOH CAH TOA

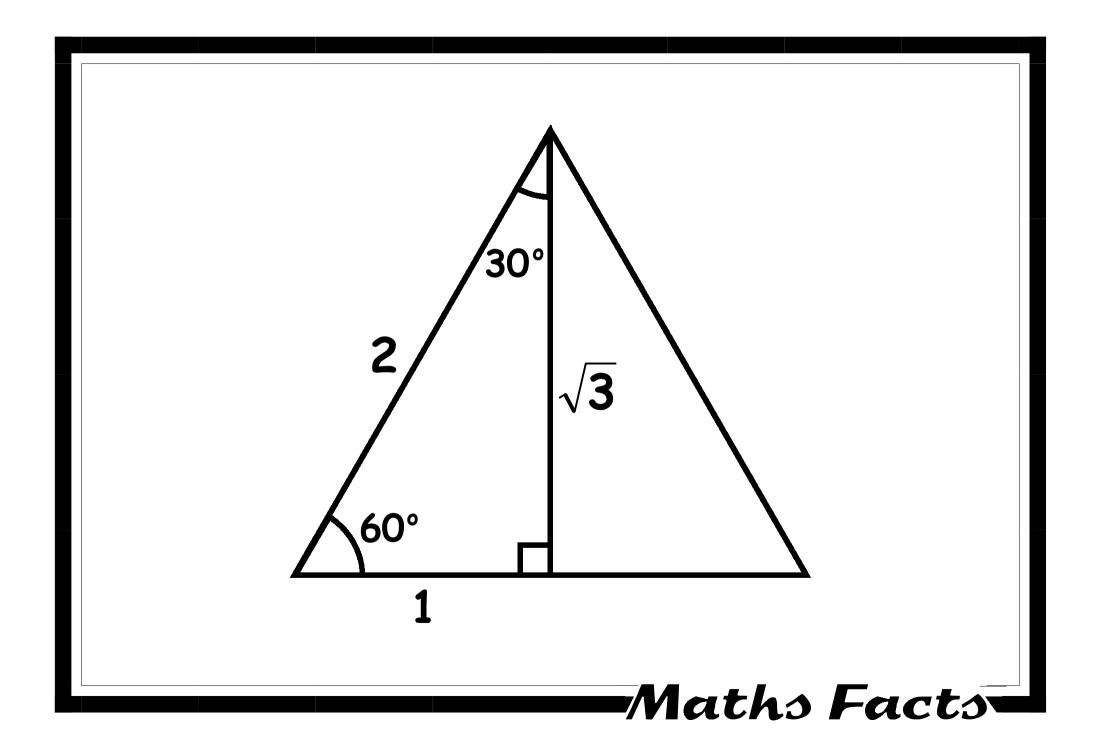


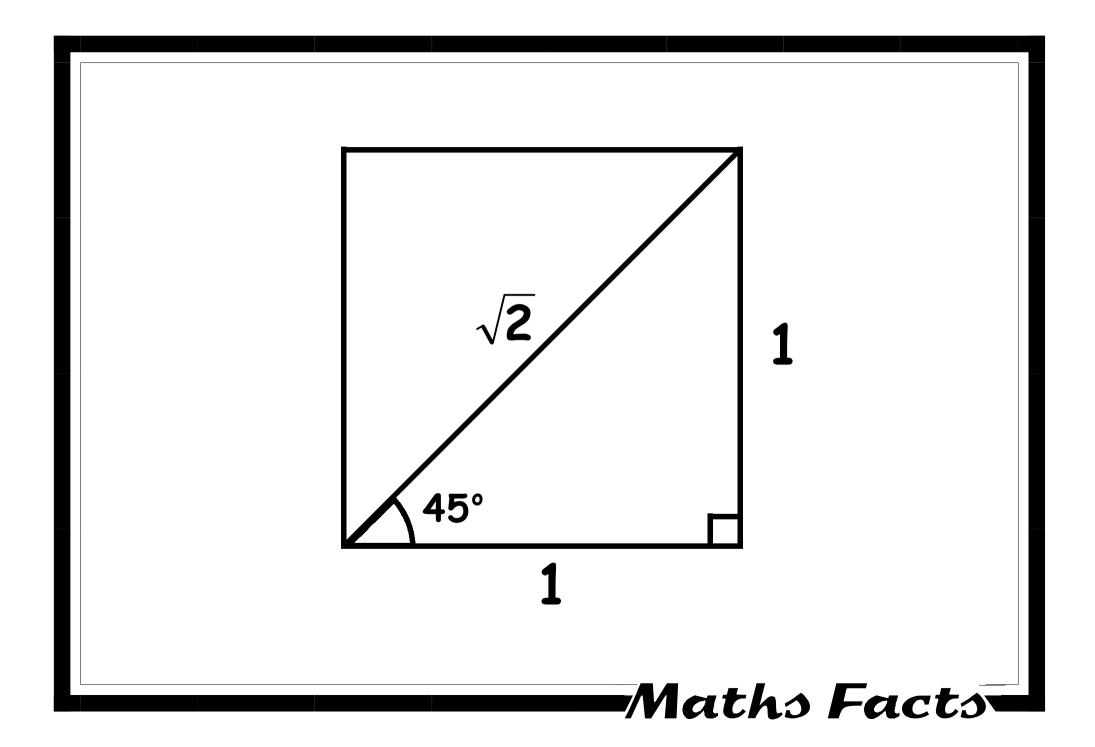
 $C^3 = C \times C \times C$

3c = c + c + c

1 hr = 60 mins

 $0 \cdot 1 hr = 6 mins$





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

$$12 \cdot 5\% = 0 \cdot 125$$

$$6\% = 0.06$$

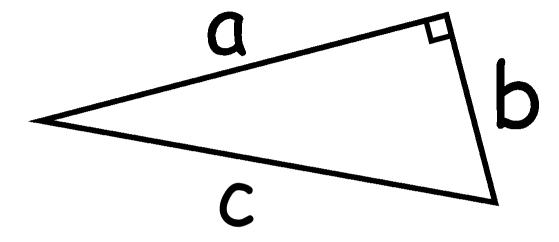
$$117\% = 1 \cdot 17$$

$$S = \frac{D}{T}$$

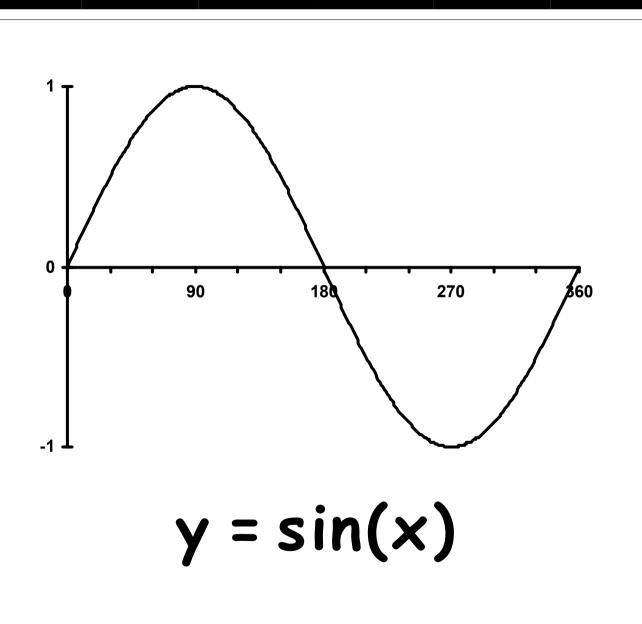
$$\int D = \frac{D}{S}$$

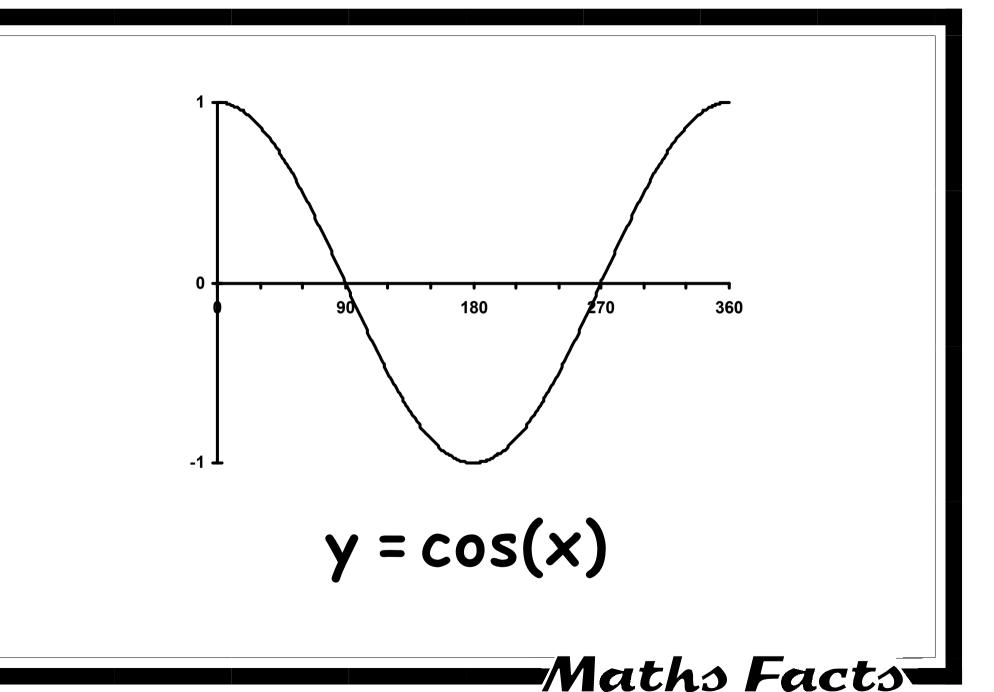
$$\int S = \frac{D}{S}$$

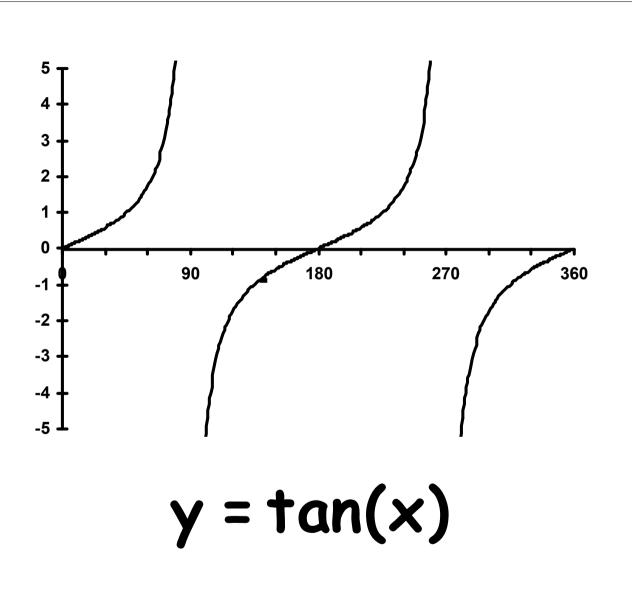
 $D=S\times T$

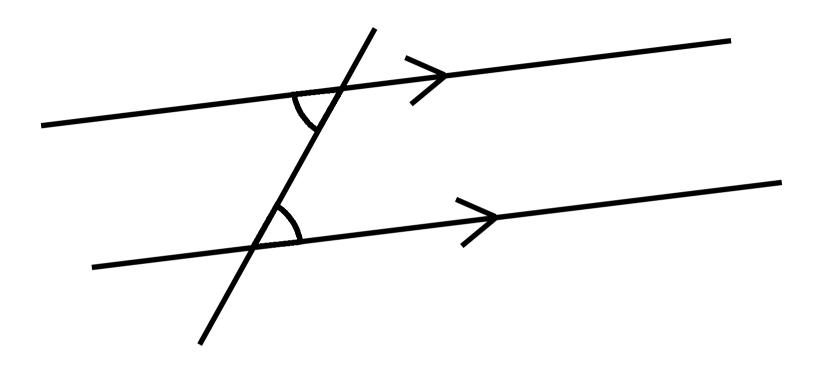


$$b^2 = c^2 - a^2$$

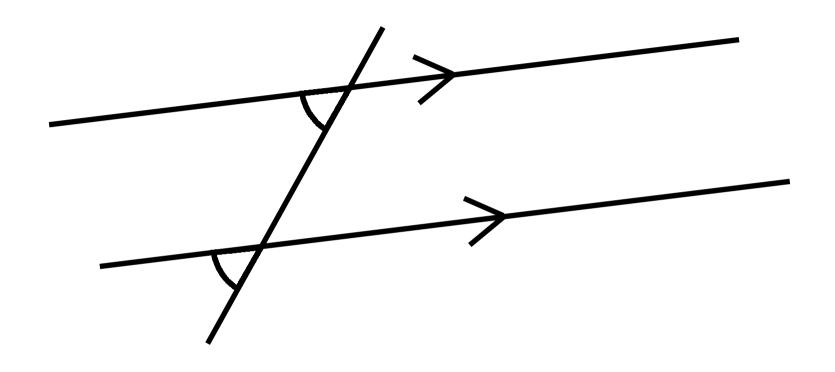




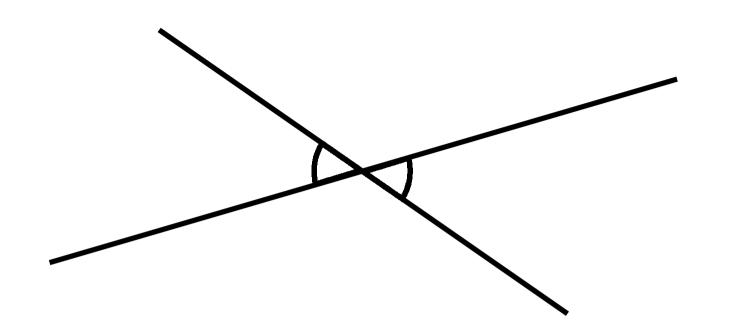




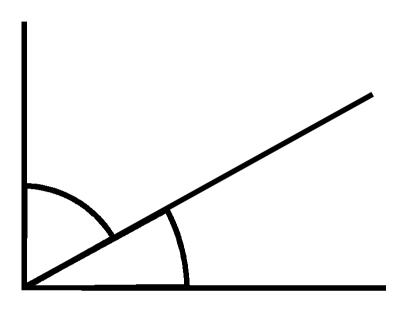
alternate angles



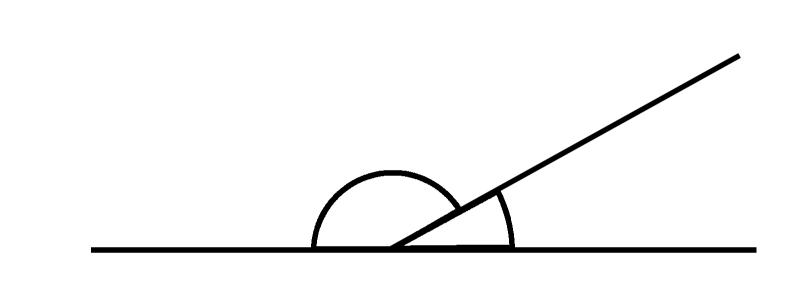
corresponding angles



vertically opposite angles



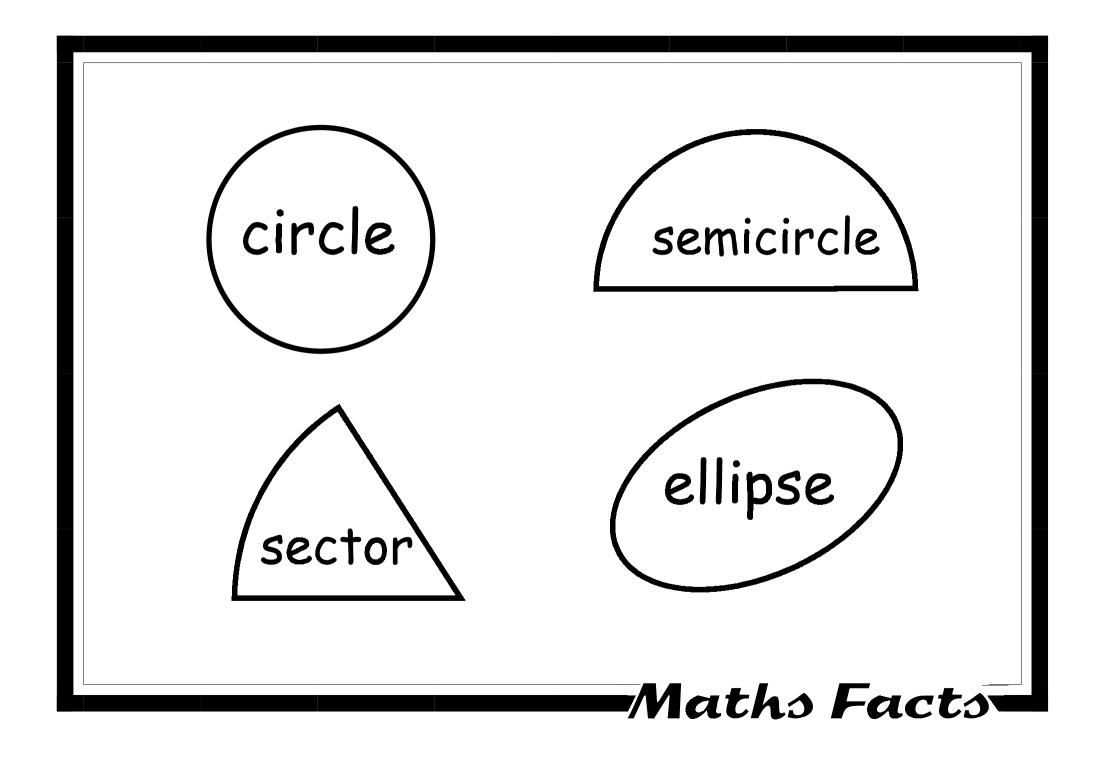
complementary angles

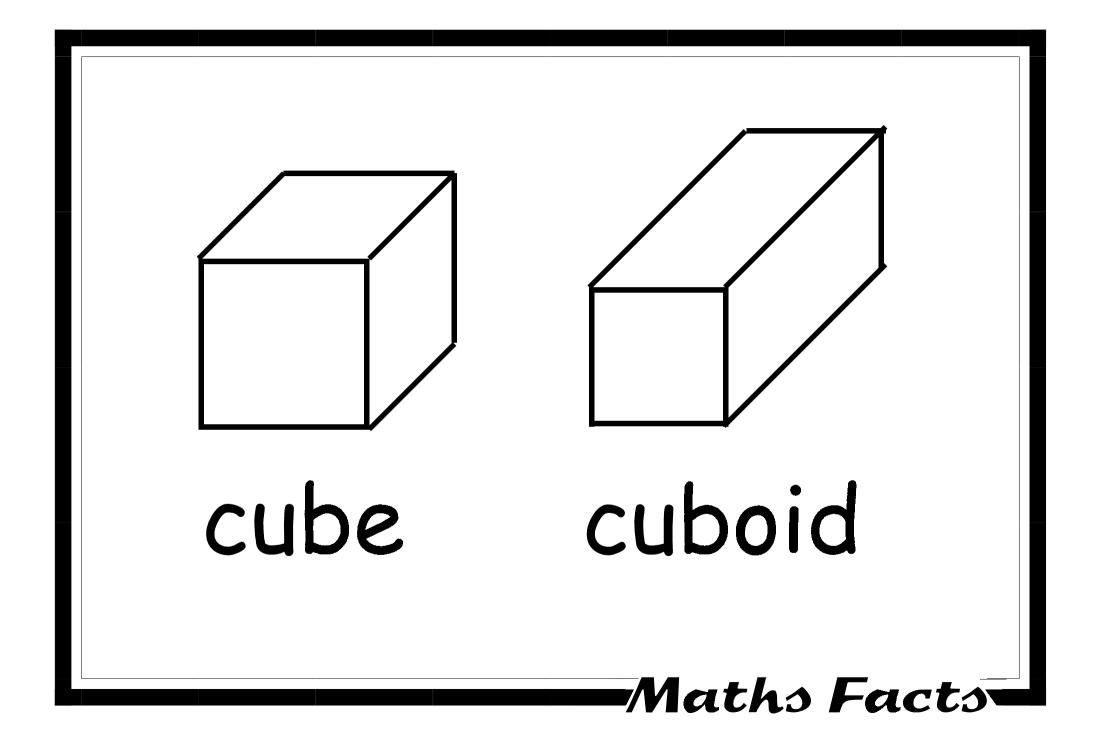


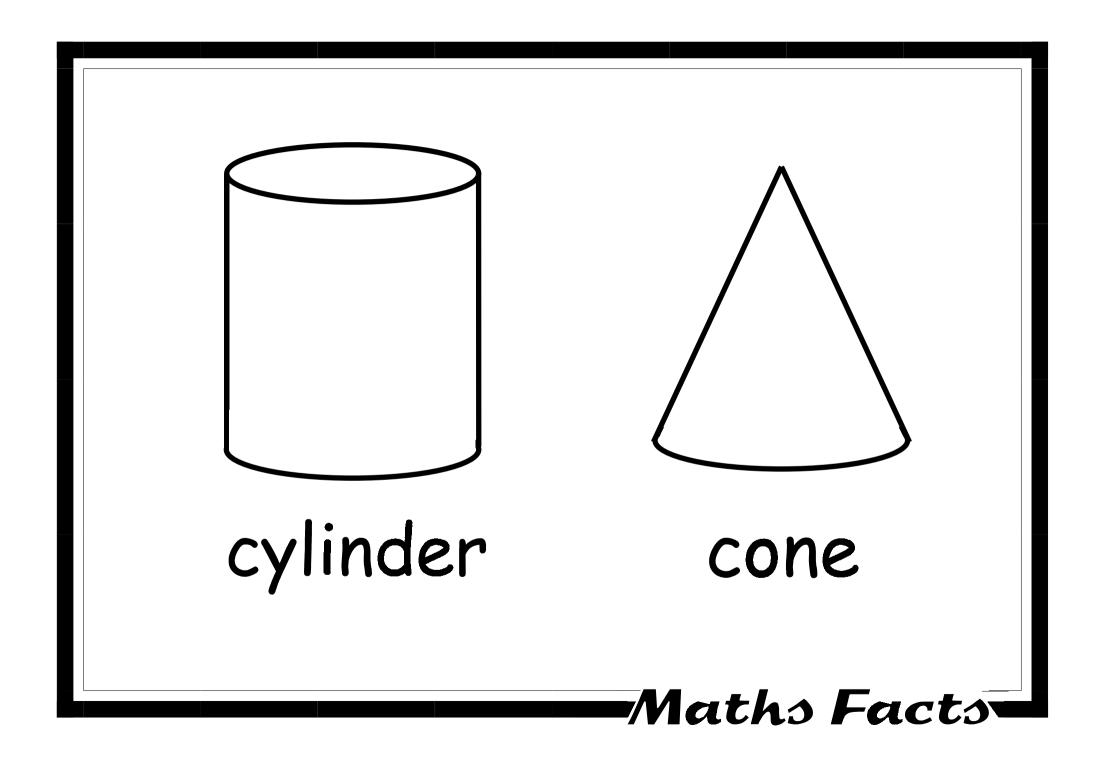
supplementary angles

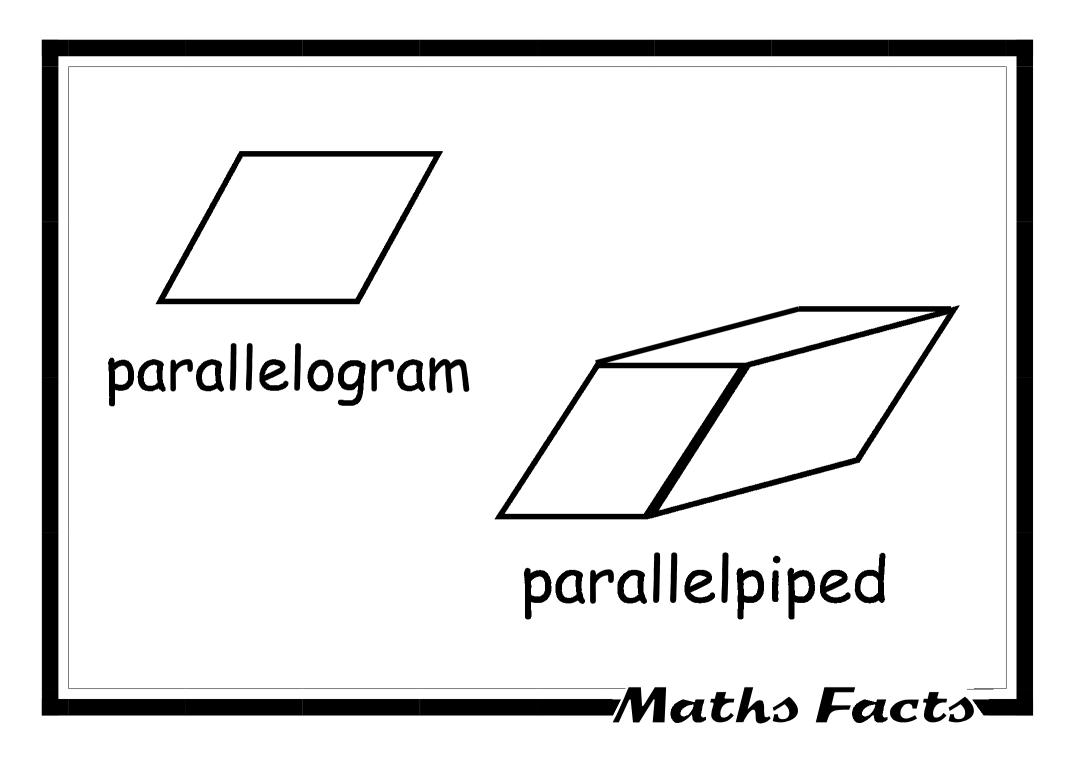
$$ax^{2} + bx + c = 0$$

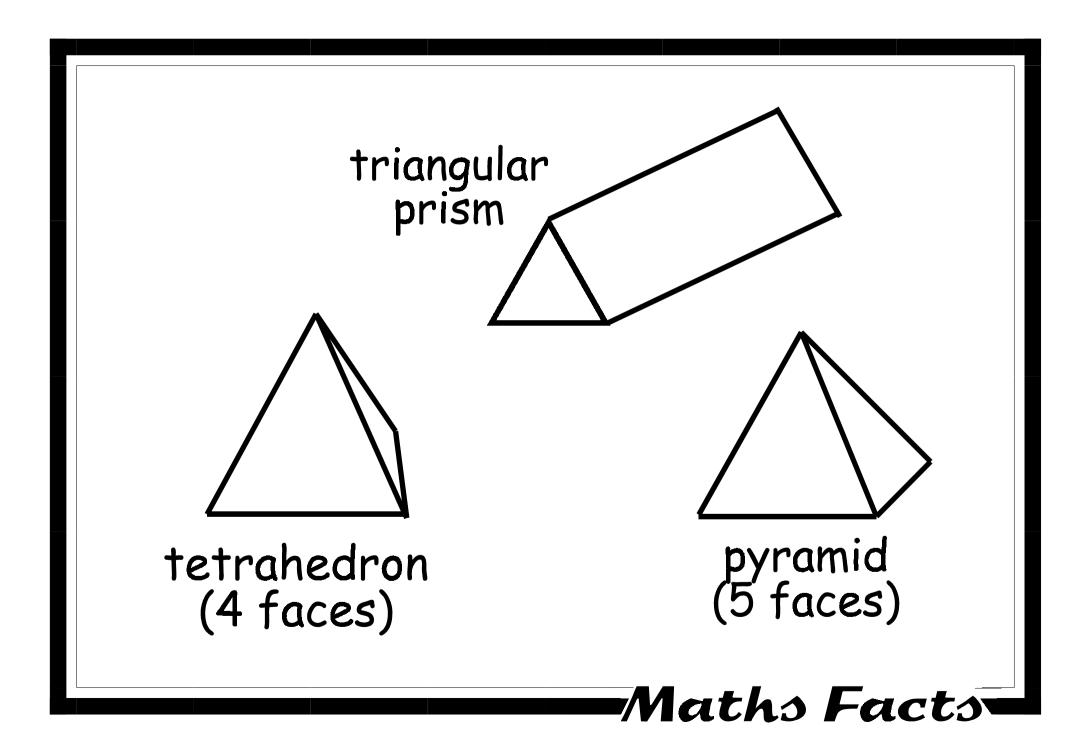
$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

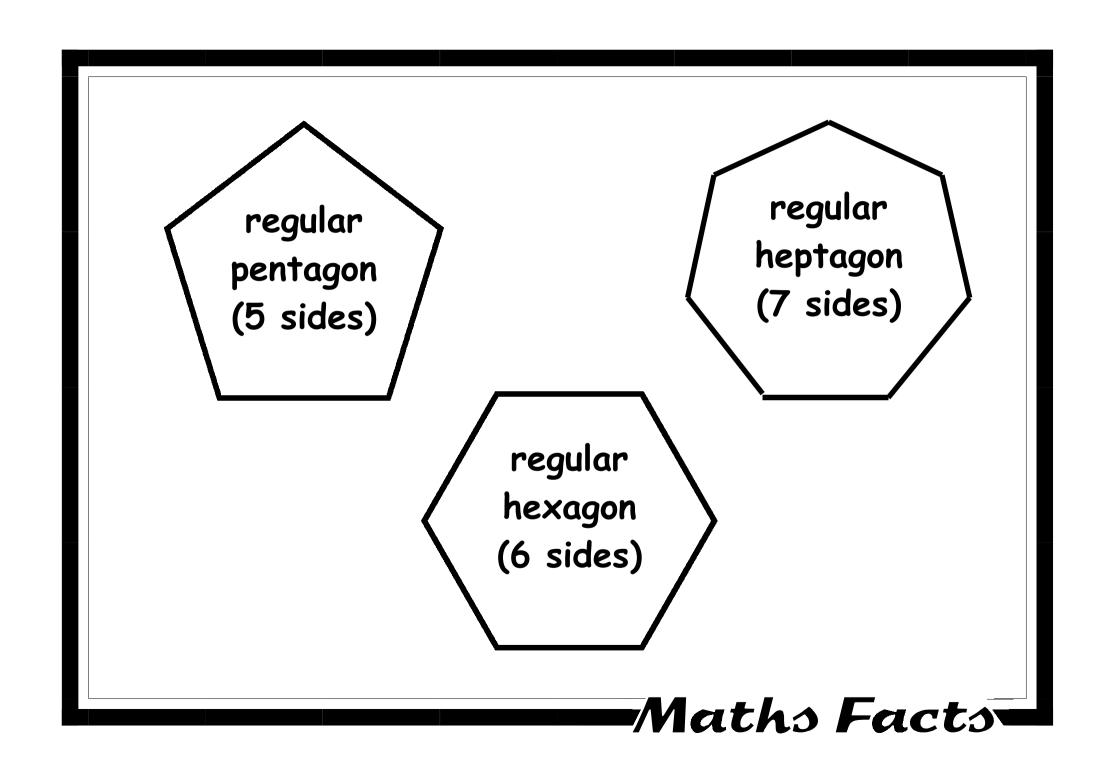


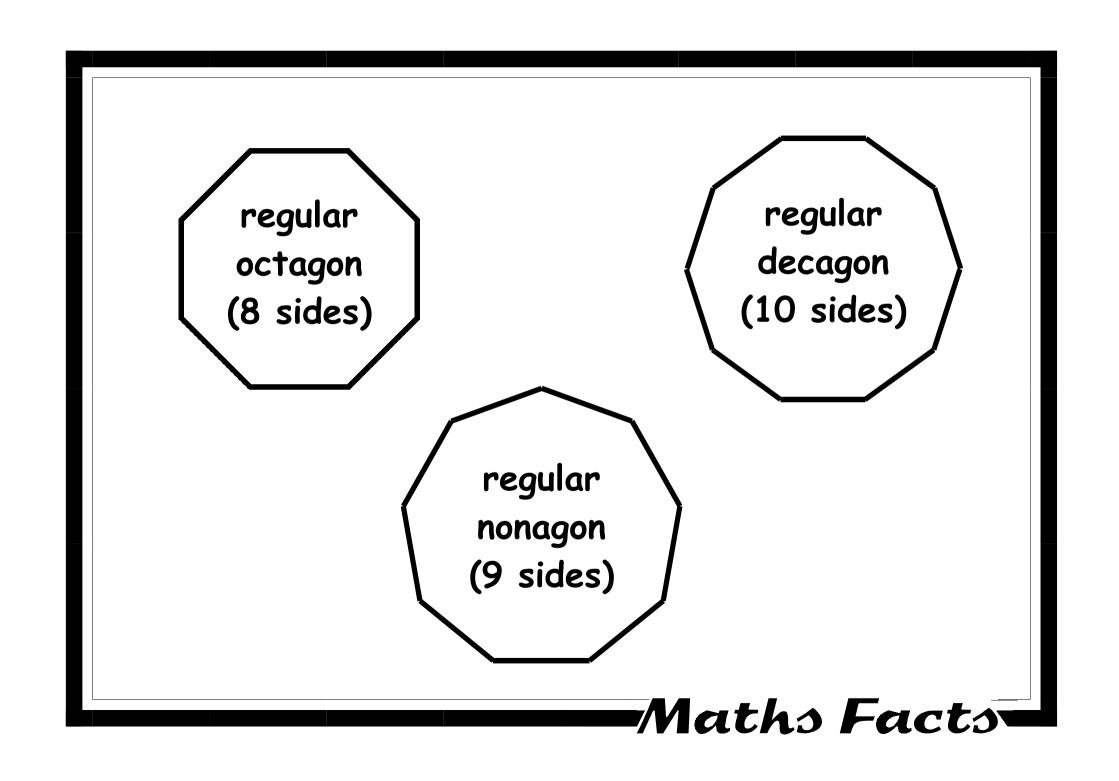


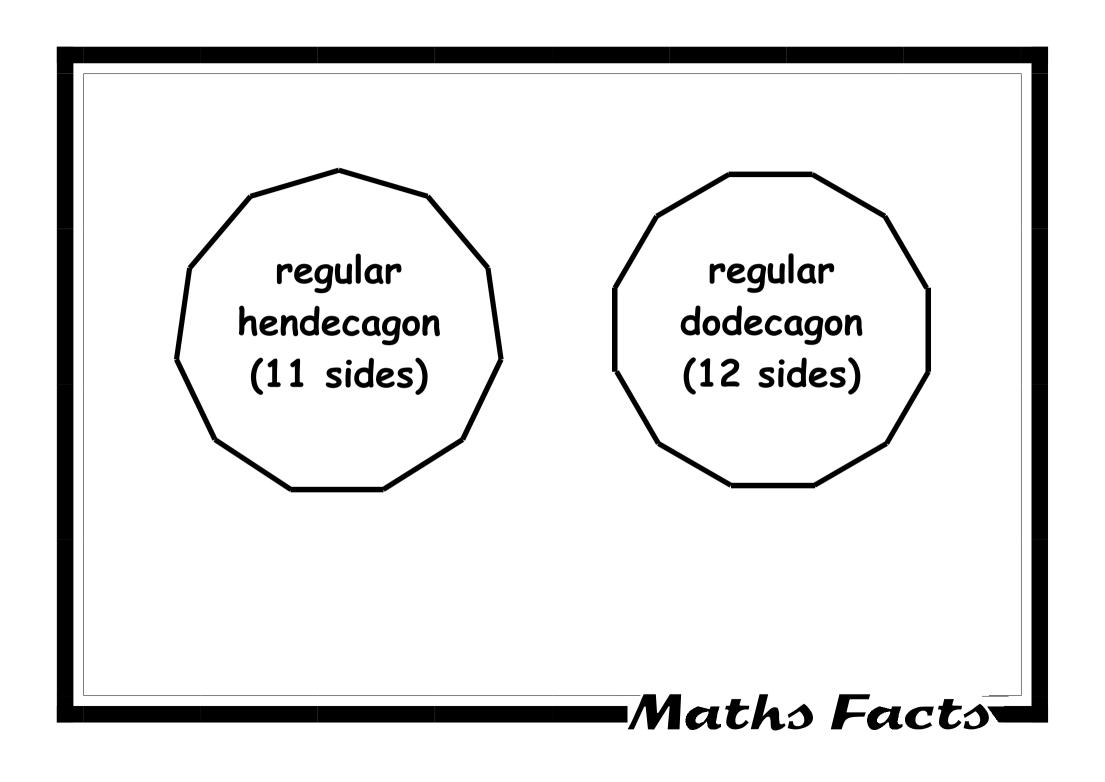


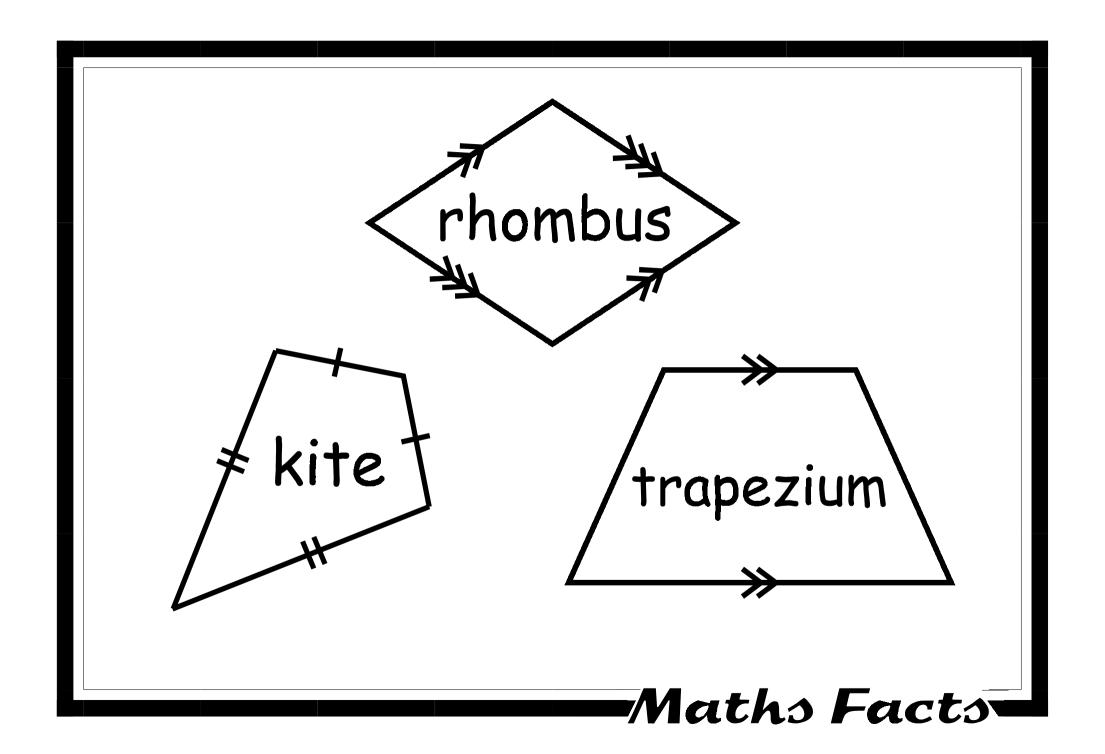


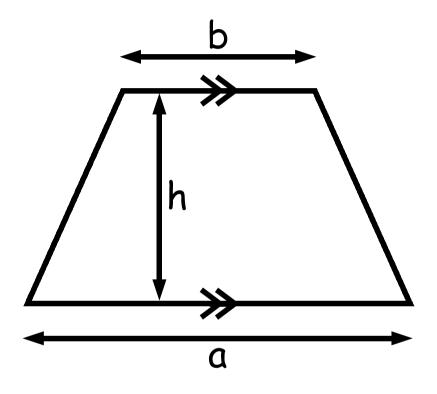




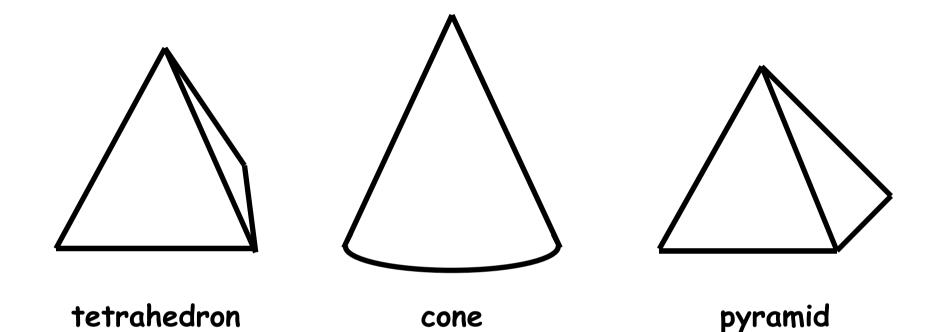






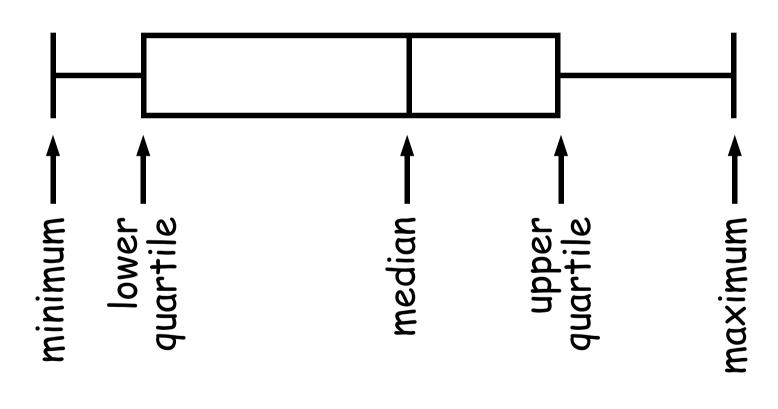


$$A_{\text{trapezium}} = \frac{1}{2}(a + b)h$$



Volume = $\frac{1}{3}$ × base area × height

statistical boxplot



mean

add all the data then divide by the number of pieces of data

mean =
$$\frac{6+2+18+5+12}{5} = \frac{43}{5} = 8.6$$

median

put the data in order identify the middle piece of data

example 1

data: 6 2 18 5 12

in order: 2 5(6)12 18

median = 6

example 2

data: 6 2 18 5 12 11

in order: 2 5 6 11 12 18

median = $\frac{1}{2}(6+11) = 8.5$

mode

the most often occuring piece of data

example 1

data: 6 2 18 5 2

mode = 2

example 2

data: 6 2 18 5 12

mode = not defined

range

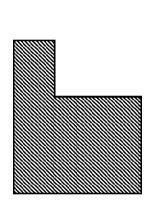
the difference between the maximum and minimum pieces of data

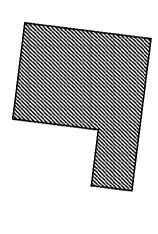
example

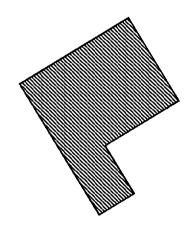
data: 6 2 18 5 12

range = 18 - 2 = 16

congruence

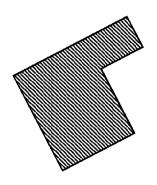


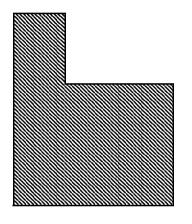


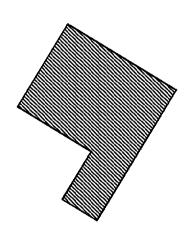


same shape same size

similarity







same shape different size

square numbers

```
1 4 9 16 25 36 49 64 81 100 121 144
169 196 225 256 289 324 361 400 441
484 529 576 625 676 729 784 841 900
```

the n^{th} square number = n^2

cube numbers

1 8 27 64 125 216 343 512 729 1000 ...

the nth cube number = n³

triangular numbers

```
1 3 6 10 15 21 28 36
45 55 66 78 91 105 ...
```

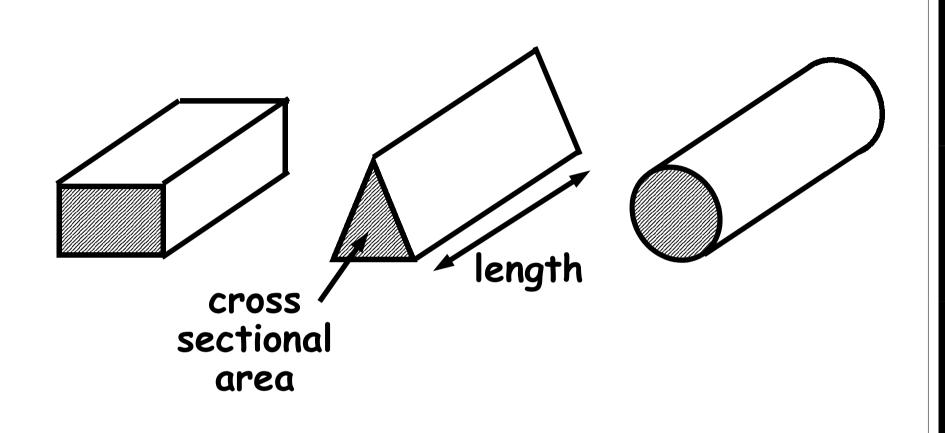
the nth triangular number = $\frac{1}{2}$ n(n+1)

prime numbers

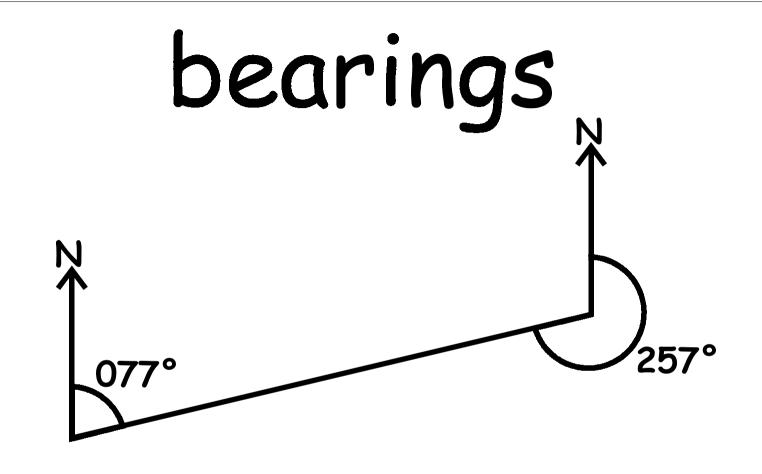
```
2 3 5 7 11 13 17 19 23 29 31 37 41
43 47 53 59 61 67 71 73 79 83 89 97
```

a prime number has only 2 distinct factors or

a prime number is divisible by only itself and 1



 V_{prism} = area of cross section × length



3 figures, clockwise, from North

Pythagorean Triples

