Learn these...

×	1	2	3	4	5	6	7	8	9	10
1	1	2	3	4	5	6	7	8	9	10
2	2	4	6	8	10	12	14	16	18	20
3	3	6	9	12	15	18	21	24	27	30
4	4	8	12	16	20	24	28	32	36	40
5	5	10	15	20	25	30	35	40	45	50
6	6	12	18	24	30	36	42	48	54	60
7	7	14	21	28	35	42	49	56	63	70
8	8	16	24	32	40	48	56	64	72	80
9	9	18	27	36	45	54	63	72	81	90
10	10	20	30	40	50	60	70	80	90	100

KNOW YOUR TABLES!

Daily work to keep sharp will make you a confident mathematician.

Useful Mathematical Language

Angles	Angles are formed when 2 straight lines meet. Measured using degrees (°).
Acute angles	Smaller than 90 degrees.
Right angles	Measure exactly 90 degrees.
Obtuse angles	Greater than 90 degrees but less than 180 degrees.
Reflex angles	Greater than 180 degrees.
Area	The amount of surface a shape takes up. Measured in centimetres squared (cm^2).
Calculate	Work out
Capacity	The amount that something can hold. It can be measured in litres, millilitres or in cubic centimetres e.g. $100cm^3$.
Century	= 100 years
Decade	= 10 years
Degree	The unit of measurement we use for measuring angles and temperatures.

Difference	To find the difference between 2 numbers, you need to take the smaller number away from the larger one. E.g. the difference between 10 and 4 is 6.
Equilateral triangle	A triangle with sides of equal lengths and equal angles (all equal 60°).
Factors	A factor is a whole number which will divide exactly into another whole number. E.g. the factors of 12 are 1, 12, 2, 6, 3 and 4.
Inverse operation	If you have a calculation with a missing number, you can use the inverse operation to solve it. + and - are the inverse of each other x and ÷ are the inverse of each other
Mean	To find the mean of a set of numbers, you add all the numbers together and then divide by the number of results you have
Multiple	Multiples are whole numbers that a larger number can be made of by adding lots of the smaller number together. E.g. 12 is a multiple of 3

Percentage (%)	Means 'out of 100'. 20% = 20 out of 100
Perimeter	The distance around the outside of a shape.
Prime numbers	Numbers which will divide exactly only by themselves and 1. These are the prime numbers to 30: 2 3 7 11 13 17 19 23 29
Product	The answer when numbers have been multiplied together. E.g. the product of 3 and 4 is 12
Right-angled triangle	A triangle where one of the angles is a right angle (90°).
Scalene triangle	A triangle where no sides are the same length and no angles are the same measurement.
Square number	The product when a number is multiplied by itself. Square number to 100 are: 1 4 9 16 25 36 49 64 81 100
Sum	When numbers have been added together. E.g. the sum of 3 and 4 is 7

Place value


M
100 Th
10 Th
Th
H
T
U
.
t
h
Millions
Hundreds of Thousands
Tens of Thousands
Thousands
Hundreds
Tens
Units
Decimal Point
Tenths
Hundredths
5,320,786.41

Rounding

Rounding Rap

Find the place value and circle the digit .

Move to the right and underline it .

0 - 4 the circle stays the same .

but 5 - 9 , adding 1 is the game !

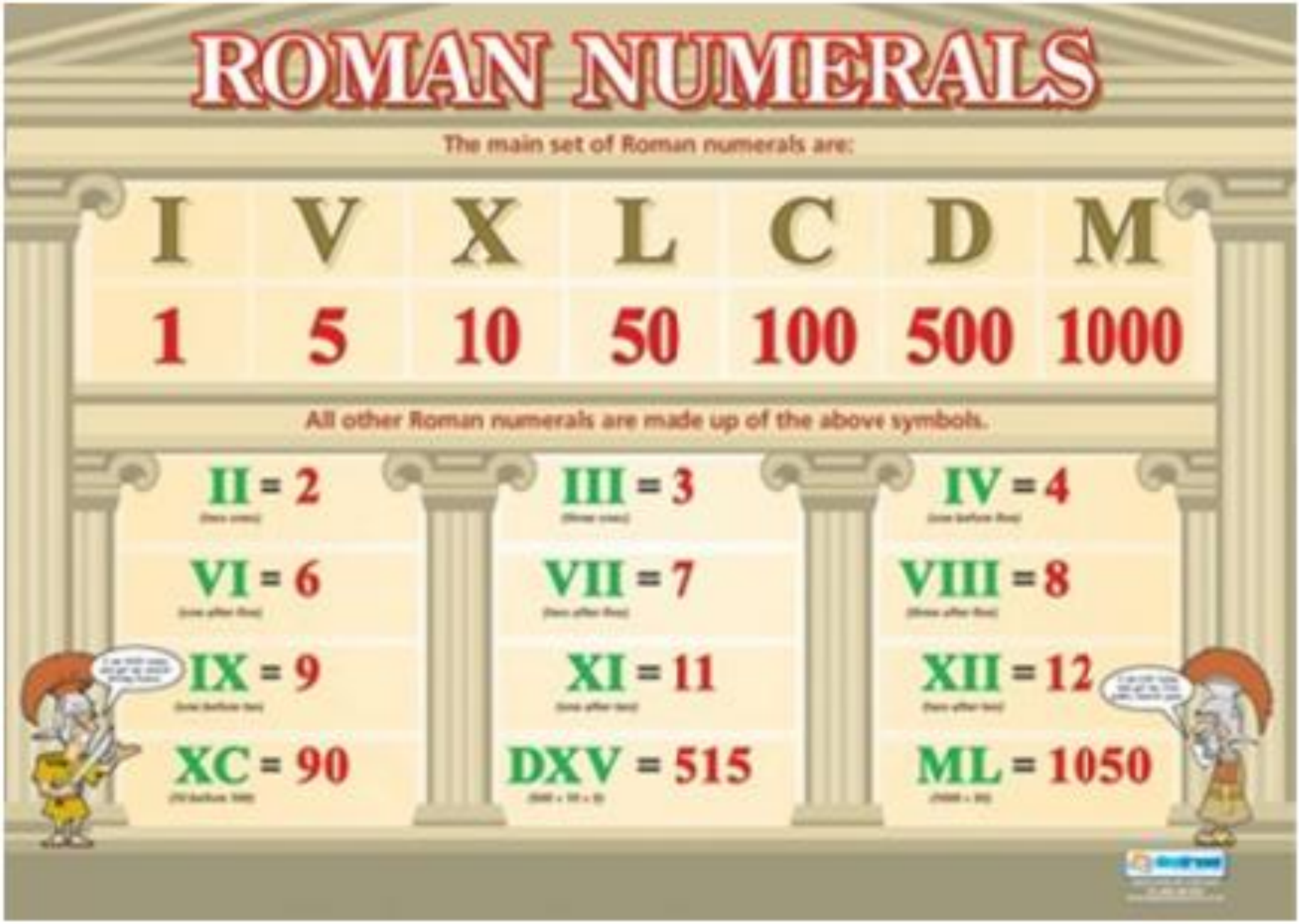
Now , flex your muscles , just like a hero .

Digits to the right - - - change to 0 .

All the other numbers , they stay the same .

Yo ! ! ! You 're a winner at the rounding game !

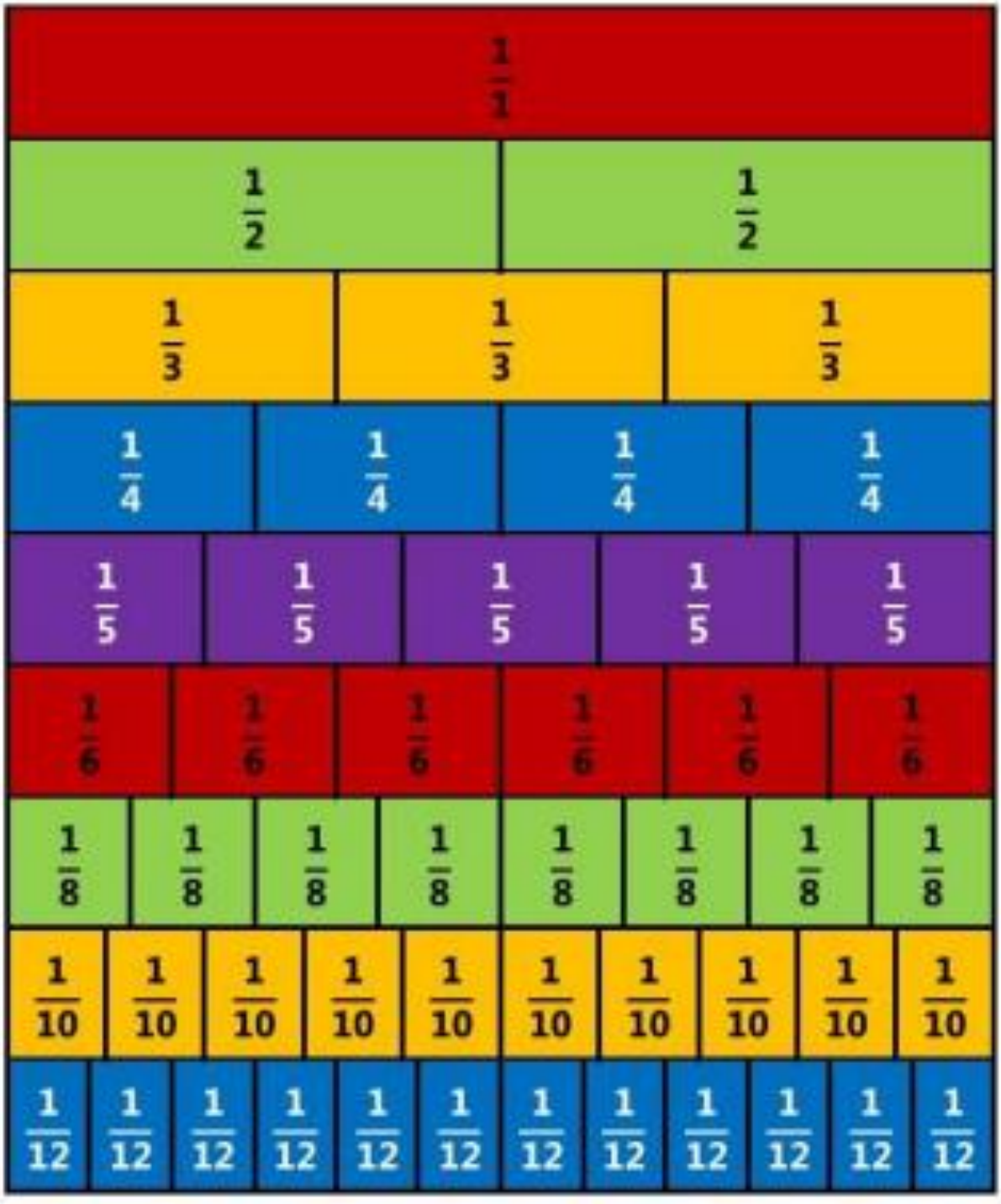
Roman Numerals



Fraction wall

Use this wall to help you understand equivalence between fractions (fractions that have the same value).

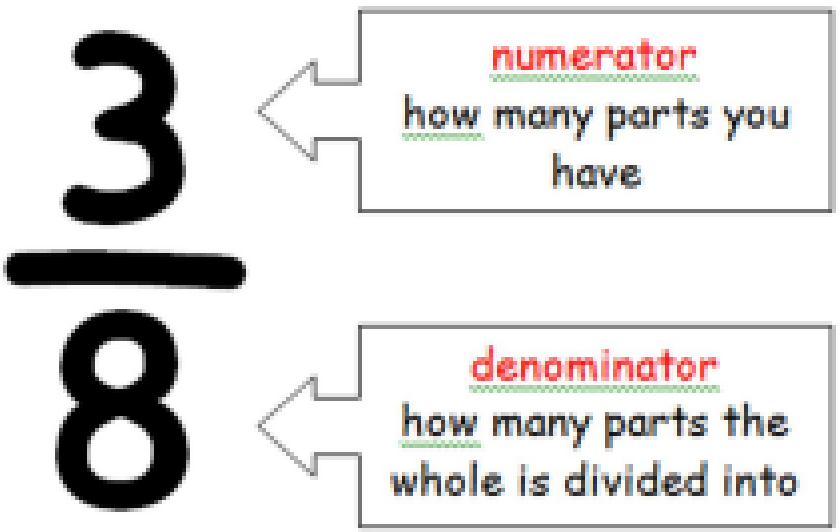
Using this wall, you can see that 1/2 = 2/4 = 3/6 = 4/8 = 5/10 = 6/12.



Fractions, decimals and percentages

Try to learn these equivalences - they will be VERY useful!

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$	0.25	25%
$\frac{3}{4}$	0.75	75%
$\frac{1}{5}$	0.2	20%
$\frac{1}{10}$	0.1	10%



Measures

Learn these measurements - they are VERY useful!

Liquids...

1 litre = 1000 millilitres (1 L = 1000 ml)

Mass/weight...

1 kilogram = 1000 grams (1 kg = 1000 g)

1/2 kg = 0.5 kg = 500 g

1/4 kg = 0.25 kg = 250 g

3/4 kg = 0.75 kg = 750 g

Length...

1 kilometre = 1000 metres (1 km = 1000 m)

1 metre = 100 centimetres (1 m = 100 cm)

1 centimetre = 10 millimetres (1 cm = 10 mm)

5 miles = 8 kilometres

Money...

One pound = 100 pence £1 = 100p

50p = £0.50

25p = £0.25

10 x 10p = £1

5 x 20p = £1

Time

One year = 365 days

One leap year (every 4 years) = 366 days

12 months in a year

A fortnight = 2 weeks

A week = 7 days

A day = 24 hours

An hour = 60 minutes

A minute = 60 seconds

PARALLEL

means

lines which never cross

&

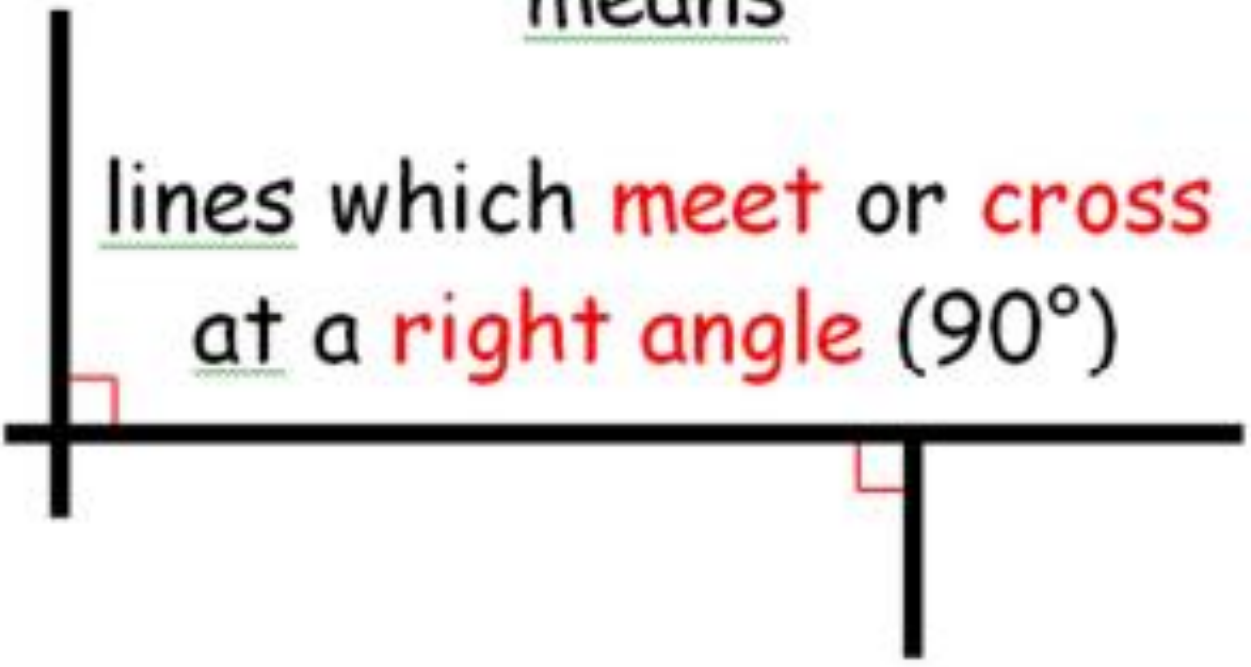
stay the same distance apart

PERPENDICULAR

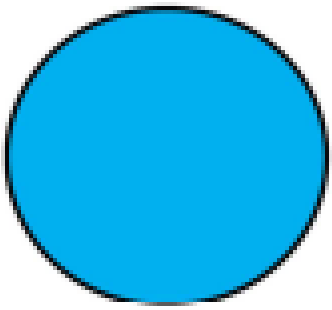
means

lines which meet or cross

at a right angle (90°)



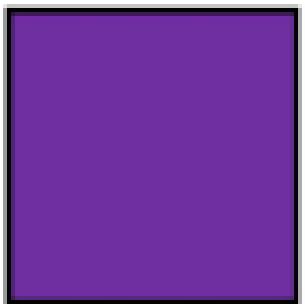
2D shapes



circle

1 curved side

0 corners

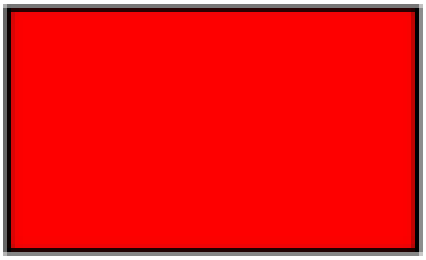


square

4 equal straight sides

4 corners

4 right angles

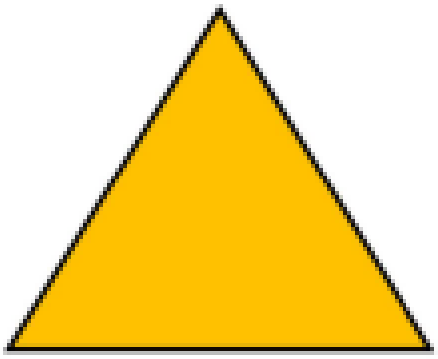


rectangle

4 straight sides

4 corners

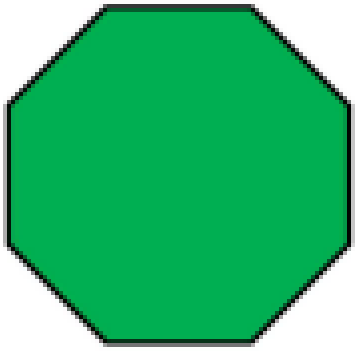
4 right angles



triangle

3 straight sides

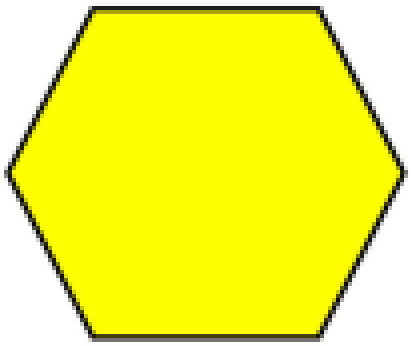
3 corners



octagon

8 straight sides

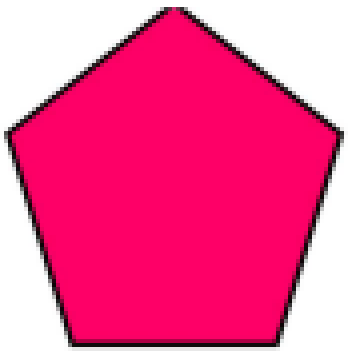
8 corners



hexagon

6 straight sides

6 corners



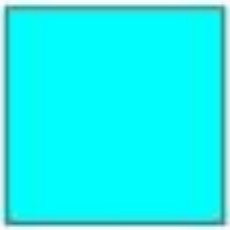
pentagon

5 straight sides

5 corners

Types of quadrilateral

Square



Properties:

- all sides the same length
- 4 lines of symmetry
- 4 right angles
- 2 pairs of parallel sides

Kite

Properties:

- 2 pairs of adjacent sides are equal
- opposite angles are equal
- 1 line of symmetry

Trapezium

Properties:

- 1 pair of parallel sides

Parallelogram

Properties:

- opposite sides are equal length
- opposite angles are equal
- 2 pairs of parallel sides
- 2 obtuse, 2 acute angles
- No lines of symmetry

Rhombus

Properties:

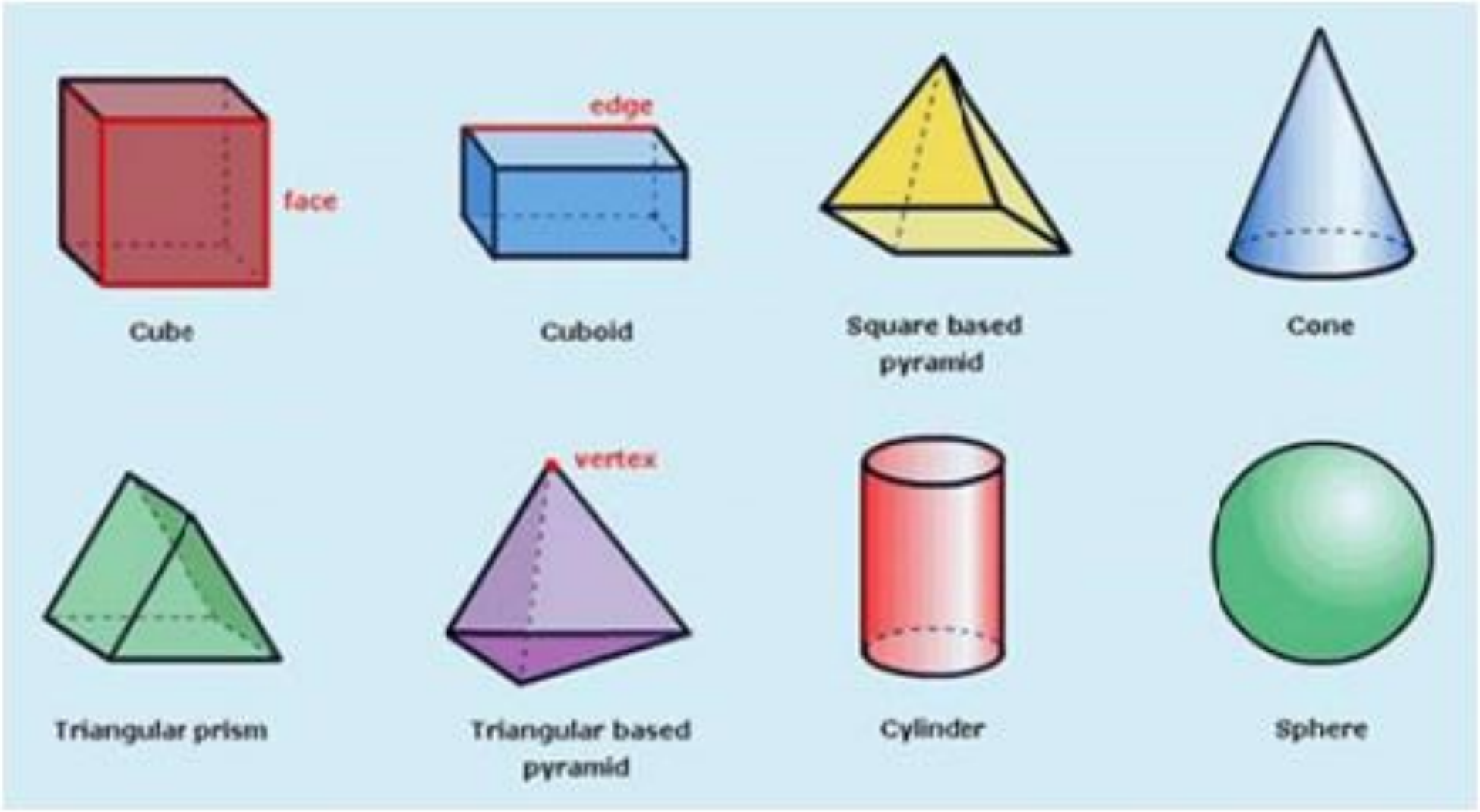
- all sides the same length
- opposite angles are equal
- 2 lines of symmetry
- 2 obtuse, 2 acute angles
- 2 pairs of parallel sides

Rectangle

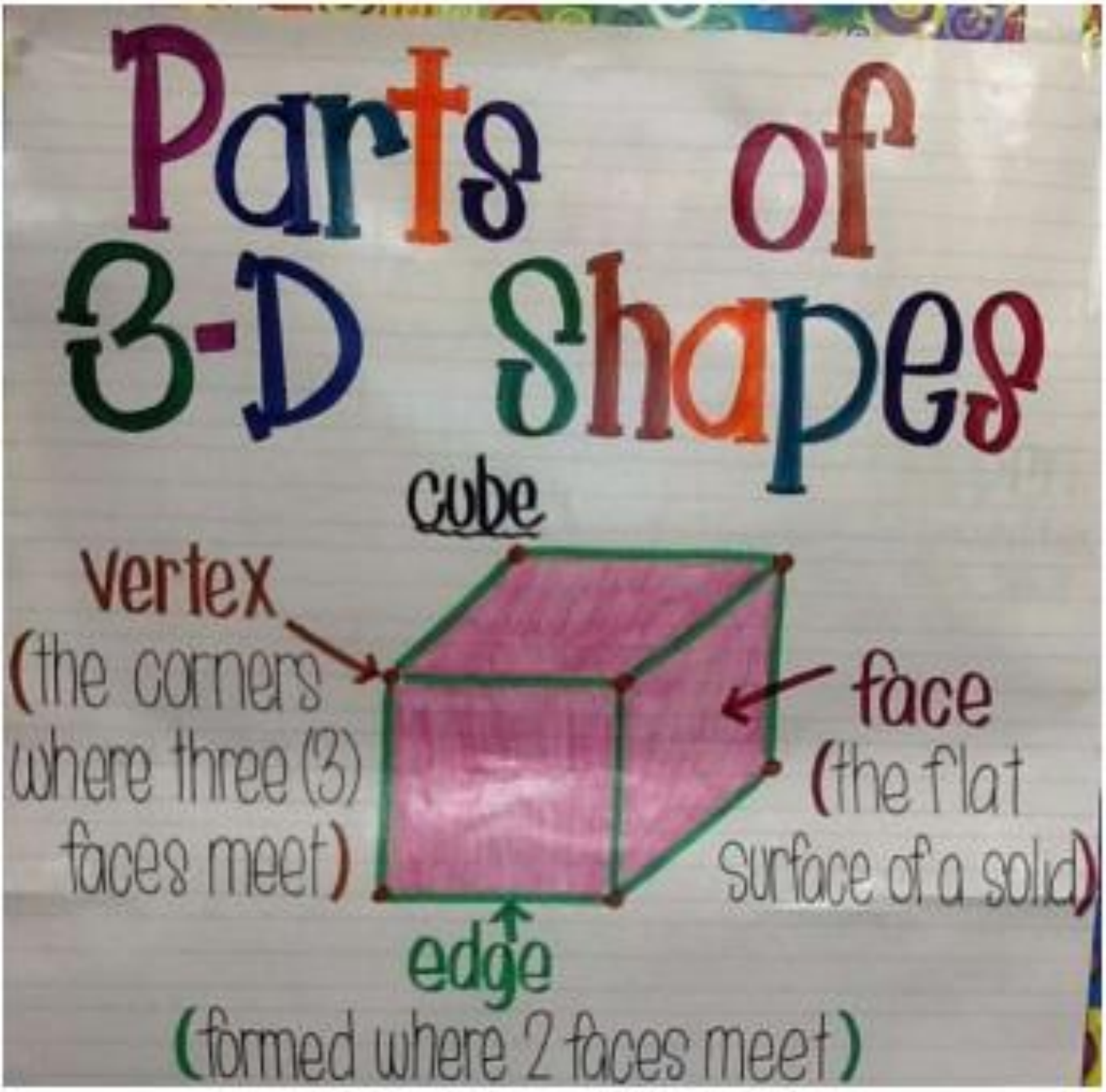
Properties:

- opposite sides are equal length
- 2 lines of symmetry
- 4 right angles
- 2 pairs of parallel sides

3D shapes


face
edge
vertex
Cube
Cuboid
Square based pyramid
Cone
Triangular prism
Triangular based pyramid
Cylinder
Sphere

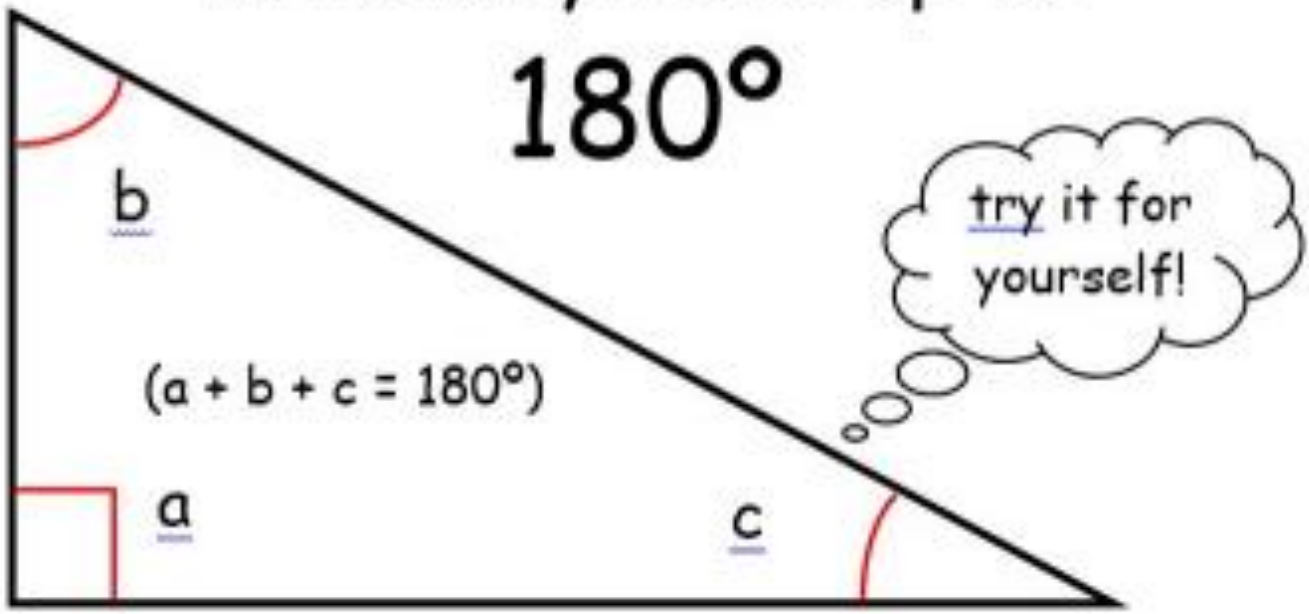
Features of 3D shapes



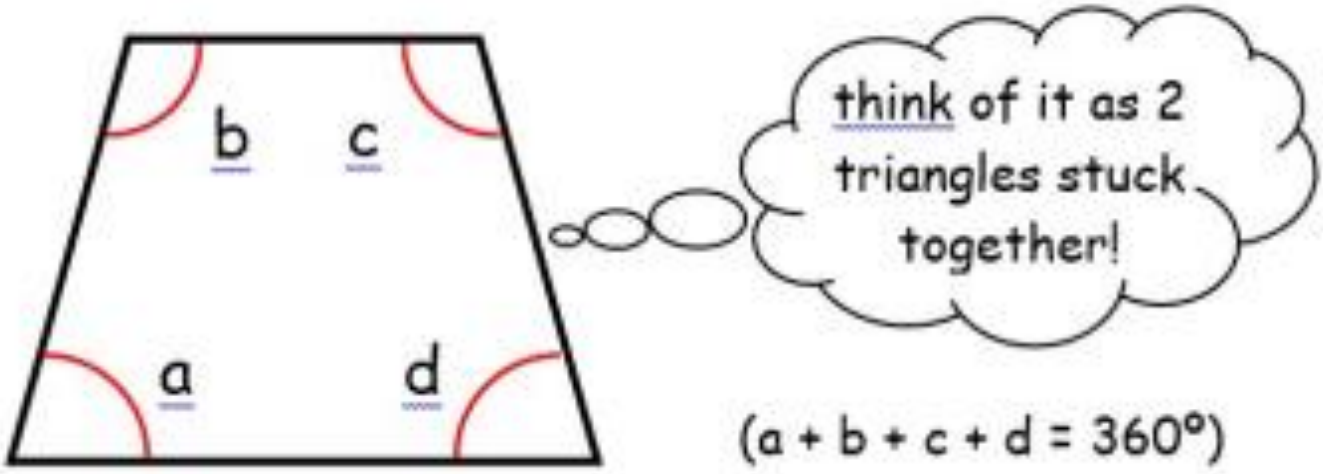
Angles in shapes

The angles of any triangle will always add up to

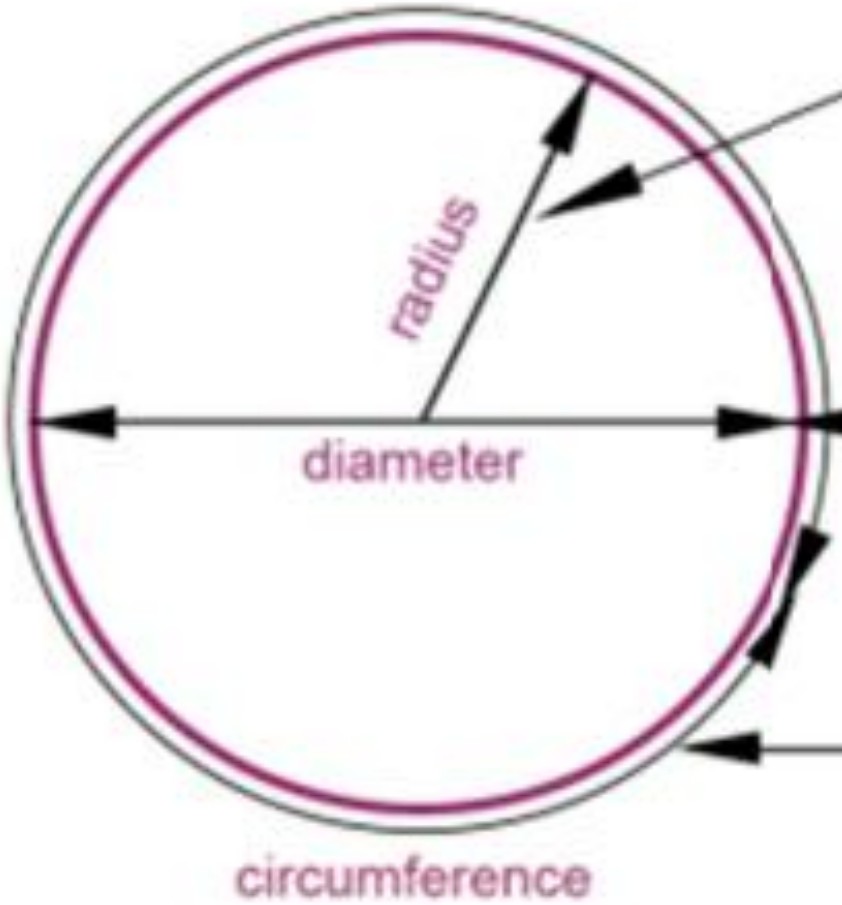
180°



The angles of any quadrilateral will always add up to **360°**



Parts of a circle



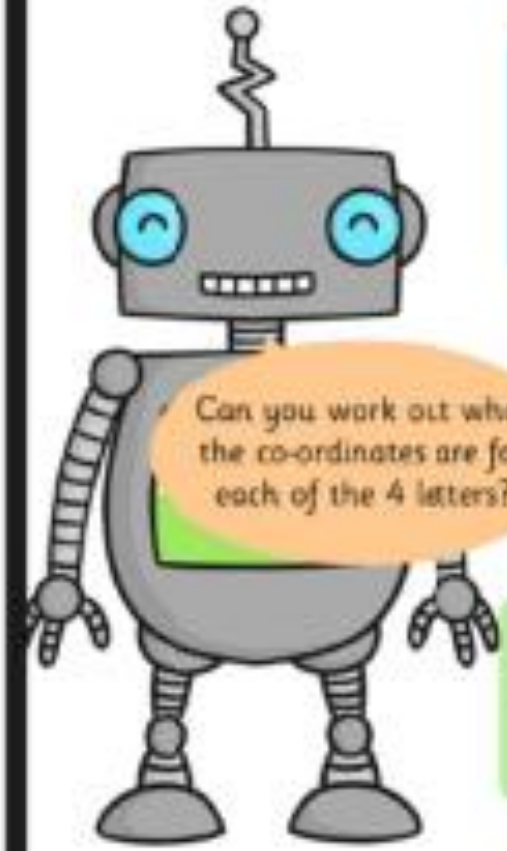
A circle's radius is the distance from the centre of the circle to the outer edge.

A circle's diameter is the length of a line through the centre, from one edge to another.

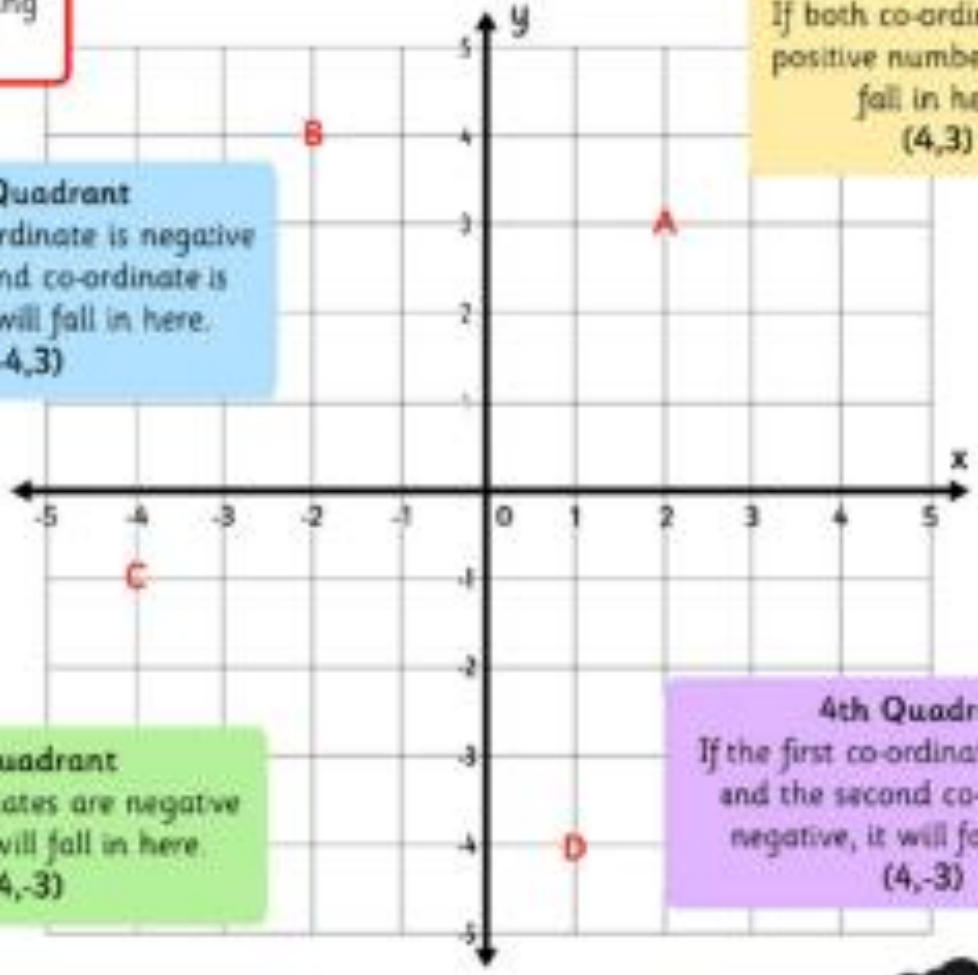
A circle's circumference is the distance around the edge.

Co-ordinates in the 4 Quadrants

Warning! This work involves negative numbers. Remember to follow the same rules for creating co-ordinates – x before y.



Can you work out what the co-ordinates are for each of the 4 letters?



1st Quadrant
If both co-ordinates are positive numbers, it will fall in here.
(4,3)

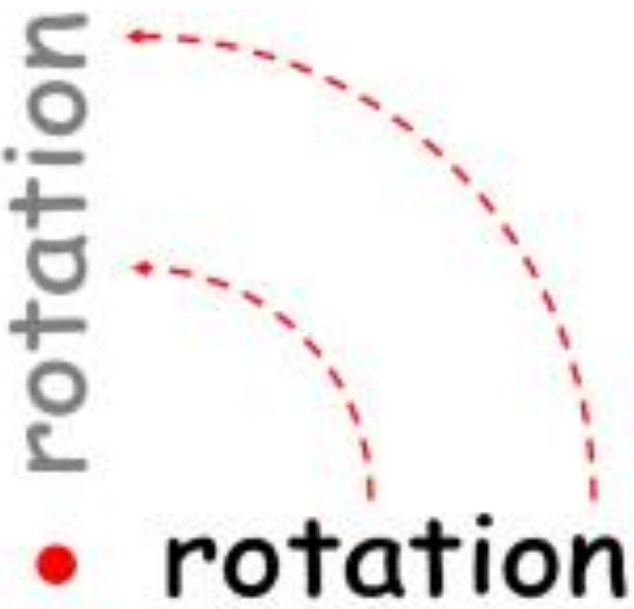
2nd Quadrant
If the first co-ordinate is negative and the second co-ordinate is positive it will fall in here.
(-4,3)

3rd Quadrant
If both co-ordinates are negative numbers, it will fall in here.
(-4,-3)

4th Quadrant
If the first co-ordinate is positive and the second co-ordinate is negative, it will fall in here.
(4,-3)

Transformations

reflection



translation

translation

Useful websites

There are several good websites for practising Maths at home. You may like to look at:

http://resources.woodlands-junior.kent.sch.uk/maths/

http://www.mathsisfun.com/ - Covers all areas of Maths. Lots of good logic puzzles!

http://www.coolmath4kids.com/ - Covers all areas of maths

http://www.bbc.co.uk/bitesize/ks2/maths/ - Covers all areas of maths

http://www.transum.org/Software/SW/Starter_of_the_day/index.htm - Good for years 5 and 6.

http://www.maths-games.org/times-tables-games.html - Good website for grouping games for all areas of maths from various websites.

http://www.mad4maths.com/ - Fun games for KS2 children.

http://www.crickweb.co.uk/ks2numeracy.html - Good variety of maths games.

http://www.topmarks.co.uk/Flash.aspx?f=SpeedChallenge - Speed challenge activities for practising times tables, rounding, number bonds.

http://mathszone.webspace.virginmedia.com/mw/add_sub/3d_3d_add.swf - Column addition.

http://www.amblesideprimary.com/ambleweb/mentalmaths/pyramid.html - Pyramid addition.

http://mathsframe.co.uk/en/resources/resource/48/column_subtraction - Various maths practise.