



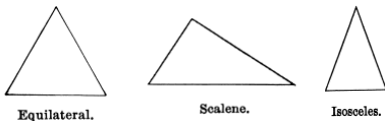
# YEAR 5/6 MATHS KNOWLEDGE ORGANISER

## 2D SHAPES

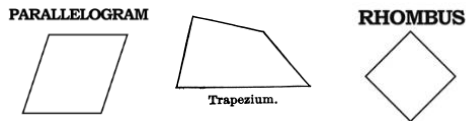
Name	No. of sides
Quadrilateral	4
Pentagon	5
Hexagon	6
Heptagon	7
Octagon	8
Nonagon	9
Decagon	10

Polygon = shape with straight sides  
 Regular = all sides/angles the same  
 Irregular = sides/angles **not** same

### Types of triangle



### Types of quadrilateral



### Area

Is the amount of space inside a 2D shape usually measured in  $\text{cm}^2$  or  $\text{m}^2$ .

#### Area of a triangle

$$= (\text{base} \times \text{height}) \div 2$$

#### Area of parallelogram

$$= \text{base} \times \text{height}$$

Height = perpendicular height

## Fractions, decimals and percentages

$\frac{1}{100}$	0.01	1%	$\div 100$
$\frac{1}{20}$	0.05	5%	$\div 20$
$\frac{1}{10}$	0.1	10%	$\div 10$
$\frac{1}{5}$	0.2	20%	$\div 5$
$\frac{1}{4}$	0.25	25%	$\div 4$
$\frac{1}{2}$	0.5	50%	$\div 2$
$\frac{3}{4}$	0.75	75%	$\div 4, \times 3$
1	1	100%	$\div 1$

### Shape Vocabulary

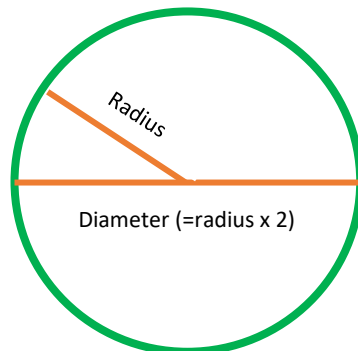
Perimeter = measure around the edge (circumference = perimeter of a circle)

Horizontal line

Vertical line

Parallel lines

Perpendicular lines  
(at right angles)



### ROMAN NUMERALS

1 - I  
 5 - V  
 10 - X  
 50 - L  
 100 - C  
 500 - D  
 1000 - M

## Angles

Full turn	$360^\circ$
Half turn	$180^\circ$
Right angle	$90^\circ$
Acute angle	$< 90^\circ$
Obtuse angle	$> 90^\circ$
Reflex angle	$> 180^\circ$
Angles on a straight line	$180^\circ$
Angles inside a triangle	$180^\circ$
Angles inside a quadrilateral	$360^\circ$

## Multiplication and division vocabulary

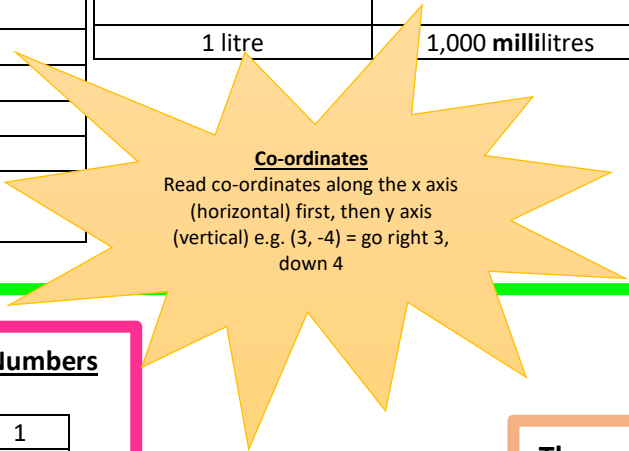
Term	Definition	Example
Factor	A number that divides exactly into another number.	Factors of 12 = 1,2,3,4,6,12
Common factor	Factors of two numbers that are the same.	Common factors of 8 and 12 = 1,2,4
Prime number	A number with only 2 factors: 1 and itself.	2,3,5,7,11,13,17,19...
Composite number	A number with more than two factors.	12 (it has 6 factors)
Prime factor	A factor that is a prime	Prime factors of 12 = 2,3
Multiple	A number in another number's times table	Multiples of 9 = 9,18,27,36...
Common multiples	Multiples of two numbers that are the same	Common multiples of 4 and 6 = 12, 24...
Square numbers	The result when a number has been multiplied by itself	25 ( $5^2 = 5 \times 5$ ) 49 ( $7^2 = 7 \times 7$ )
Cube numbers	The result when a number has been multiplied by itself 3 times.	8 ( $2^3 = 2 \times 2 \times 2$ ) 27 ( $3^3 = 3 \times 3 \times 3$ )



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## Measurement Conversions

Month	Days	1 centimetre	10 mm
January	31	1 metre	100 cm
February	28 (29 in leap year)	1 kilometre	1,000 m
March	31		
April	30	1 mile	1.6 km
May	31	1 kilometre	0.625 ( $\frac{5}{8}$ ) mile
June	30		
July	31	1 kilogram	1,000 grams
August	31		
September	30	1 litre	1,000 millilitres
October	31		
November	30		
December	31		
1 year = 365 days (= 52 weeks)			
Leap year = 366 days			



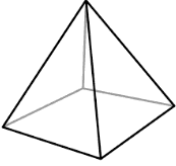

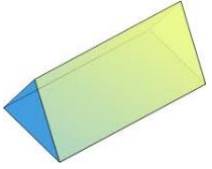
## Square Numbers

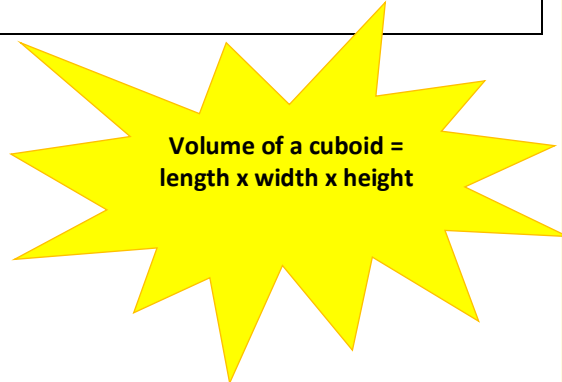
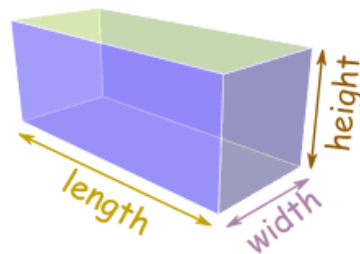
1 <sup>2</sup>	1
2 <sup>2</sup>	4
3 <sup>2</sup>	9
4 <sup>2</sup>	16
5 <sup>2</sup>	25
6 <sup>2</sup>	36
7 <sup>2</sup>	49
8 <sup>2</sup>	64
9 <sup>2</sup>	81
10 <sup>2</sup>	100
11 <sup>2</sup>	121
12 <sup>2</sup>	144
13 <sup>2</sup>	169

## Cube Numbers

1 <sup>3</sup>	1
2 <sup>3</sup>	8
3 <sup>3</sup>	27
4 <sup>3</sup>	64
5 <sup>3</sup>	125



3D Shapes	Square-based pyramids	Triangular – based pyramids	Triangular prism
			
<b>Faces</b> (the flat sides)	5	4	5
<b>Edges</b>	8	6	9
<b>Vertices</b> (the points where the edges meet)	5	4	6
<b>Volume</b> = the amount of space a 3D shape takes up, usually measured in cm <sup>3</sup> or m <sup>3</sup> .			



## The mean (average)

The mean is the type of average. To find the mean, add up all the numbers and divide by how many there are. E.g. the mean of 4, 5, 3, 4 is 4.

(Because  $4 + 5 + 3 + 4 = 16$ , and  $16 \div 4 = 4$ )

## The Median (order the group of numbers and find the middle value)

4, 5, 3, 4, 4 the next step is to put the numbers in order 3,4,4,4,5 the median is 4.

## The Mode (is the most popular number)

4, 5, 3, 4, 4 the number four occurs the most times, so the mode is 4.