

## 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 prime	prime factors of 12 = 2, 3
multiple	a number in another number's times table	multiples of 9 = 9, 18, 27, 36...
common multiple	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 ( $3^3 = 3 \times 3 \times 3$ )

## Roman numerals

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

# YEAR 6 MATHS KNOWLEDGE ORGANISER

## Measurement conversions

Month	Days
January	31
February	28 (29 in leap year)
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

1 year = 365 days ( $\approx$  52 weeks)  
Leap year = 366 days

1 centimetre	10mm
1 metre	100cm
1 kilometre	1,000 m
1 mile	1.6 km
1 kilometre	0.625 ( $\frac{5}{8}$ ) mile
1 kilogram	1,000 grams
1 litre	1,000 millilitres

## Co-ordinates

Read co-ordinates along the x axis (horizontal) first, then the y axis (vertical). E.g. (3,-4) = go right 3, down 4.

## 2D shapes

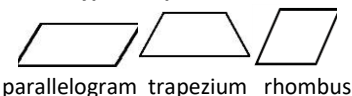
Name	No. of sides
quadrilateral	4
pentagon	5
hexagon	6
heptagon	7
octagon	8
nonagon	9
decagon	10

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

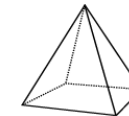
$$= (\text{base} \times \text{height}) \div 2$$

#### Area of a parallelogram

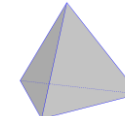
$$= \text{base} \times \text{height}$$

(Height = perpendicular height)

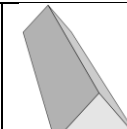
## 3D shapes



square-based pyramid



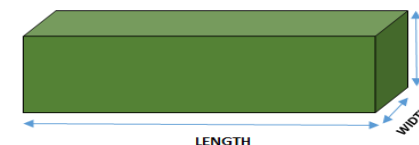
triangular-based pyramid



triangular prism

faces (the flat sides)	5	4	5
edges	8	6	9
vertices (the points where the edges meet)	5	4	6

**Volume** = the amount of space a 3D shape takes up, usually measured in  $\text{cm}^3$  or  $\text{m}^3$



$$\text{Volume of a cuboid} = \text{length} \times \text{width} \times \text{height}$$

## Fractions, decimals & 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%	$\div 1$

## 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	$360^\circ$

## Shape vocabulary

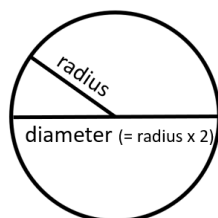
**perimeter** = measure around the edge (**circumference** = perimeter of a circle)

horizontal line

parallel lines

vertical line

perpendicular lines (at right angles)



## The mean

The mean is a 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  $16 \div 4 = 4$ )