

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

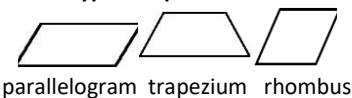
Name	No. of sides
quadrilateral	4
pentagon	5
hexagon	6
heptagon	7
octagon	8
nonagon	9
decagon	10

polygon = shape with straight sides
regular = all sides/angles the same
irregular = sides/angles **not** same

Types of triangle



Types of quadrilateral

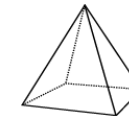


AREA

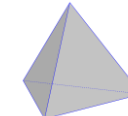
is the amount of space inside a 2D shape usually measured in cm^2 or m^2 .

Area of a triangle
= (base x height) \div 2
Area of a parallelogram
= base x height

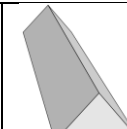
3D shapes



square-based pyramid



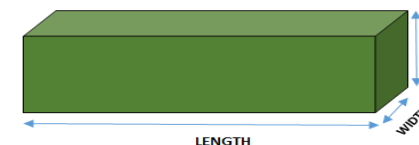
triangular-based pyramid



triangular prism

	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 cm^3 or m^3



Volume of a cuboid =
length x width x 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%	$\div 1$

4 → Numerator
— Vinculum
7 → Denominator

Shape vocabulary

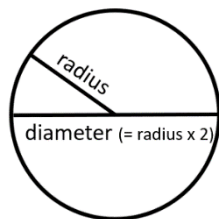
perimeter = measure around the edge

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 $16 \div 4 = 4$)

1,235,048

Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
	1,000,000	100,000 100,000	10,000 10,000	1,000 1,000 1,000 1,000		10 10 10	1 1 1 1 1 1

Ones	Tenths	Hundredths	Thousandths
0	$\frac{1}{10}$ $\frac{1}{10}$	$\frac{1}{100}$	$\frac{1}{1000}$ $\frac{1}{1000}$ $\frac{1}{1000}$
0	.	2	1 3

Ones	Tenths	Hundredths	Thousandths
1		$\frac{1}{100}$ $\frac{1}{100}$	$\frac{1}{1000}$ $\frac{1}{1000}$
1	.	0	2 2

Mixed Numbers

Mixed numbers contain a whole number and a fraction.

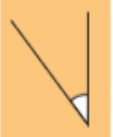
whole $\rightarrow 2\frac{1}{4}$ \leftarrow fraction

Improper Fractions


An improper fraction has a numerator which is greater than or equal to the denominator.

$\frac{5}{3}$


Angle Types



Acute Angles
Any angle that measures less than 90° is called an **acute** angle.

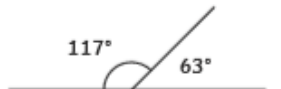


Obtuse Angles
Any angle that measures greater than 90° and less than 180° is called an **obtuse** angle.

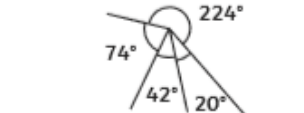


Reflex Angles
Any angle that measures greater than 180° is called a **reflex** angle.

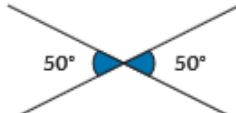
Calculating Angles



Angles on a straight line always total 180°.



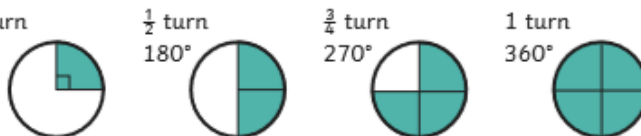
Angles around a point always total 360°.



Opposite angles that share a vertex are equal.

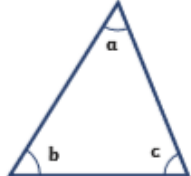


Opposite angles that share a vertex are equal.



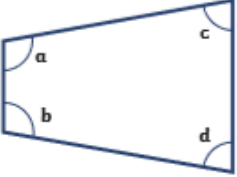
Multiples of 90° can be used as descriptions of a turn.

Angles in a Triangle



$a + b + c = 180^\circ$

Angles in a Quadrilateral



$a + b + c + d = 360^\circ$



The ratio of footballs to rugby balls: 1:4
The ratio of rugby balls to footballs: 4:1

Shape B has been enlarged from Shape A by a scale factor of 3.

Shape B is now three times as big as Shape A.

