Maths *Knowledge Organiser*

Area and Perimeter of Polygons

Perimeter	The total distance around the outside of a shape. Units include: mm, cm, m etc.	8 cm / 5 cm rectangle. $P = 8 + 5 + 8 + 5 = 26cm$
Area	The amount of space inside a shape. Units include: mm^2, cm^2, m^2	9 cm grid with shapes
Area of a Rectangle	Length x Width	9 cm, 4 cm. $A = 36cm^2$
Area of a Parallelogram	Base x Perpendicular Height. Not the slant height.	4cm, 3cm, 7cm. $A = 21cm^2$
Area of a Triangle	Base x Height ÷ 2	9, 4, 5, 12. $A = 24cm^2$
Area of a Kite	Split in to two triangles and use the method above.	2.2m, 8m. $A = 8.8m^2$
Area of a Trapezium	$\dfrac{(a+b)}{2} \times h$ "Half the sum of the parallel side, times the height between them. That is how you calculate the area of a trapezium"	6 cm, 5 cm, 16 cm. $A = 55cm^2$
Compound Shape	A shape made up of a combination of other known shapes put together.	

Circles

Parts of a Circle	Radius – the distance from the centre of a circle to the edge Diameter – the total distance across the width of a circle through the centre. Circumference – the total distance around the outside of a circle Chord – a straight line whose end points lie on a circle Tangent – a straight line which touches a circle at exactly one point Arc – a part of the circumference of a circle Sector – the region of a circle enclosed by two radii and their intercepted arc Segment – the region bounded by a chord and the arc created by the chord

Parts of a Circle

Radius   Diameter   Circumference

Chord   Arc   Tangent

Segment   Sector

Volume and Surface Area

Volume	Volume is a measure of the amount of space inside a solid shape. Units: mm^3, cm^3, m^3 etc.	cube
Volume of a Cube/Cuboid	$V = Length \times Width \times Height$ $V = L \times W \times H$ You can also use the Volume of a Prism formula for a cube/cuboid.	6cm, 3 cm, 5cm. volume = 6 x 5 x 3 = 90 cm^3
Prism	A prism is a 3D shape whose cross section is the same throughout.	Triangle Prism, Rectangle Prism, Cube, Pentagonal Prism, Hexagonal Prism
Cross Section	The cross section is the shape that continues all the way through the prism.	Cross Section
Volume of a Prism	$V = Area\ of\ Cross\ Section \times Length$ $V = A \times L$	Area of Cross Section, Length