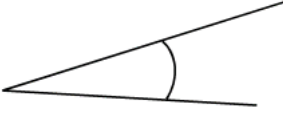
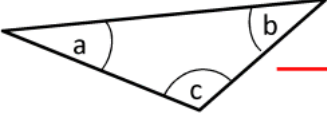
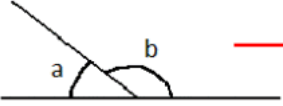
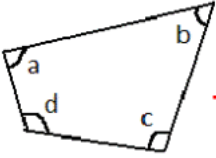
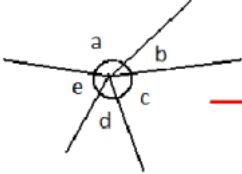




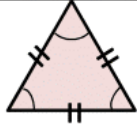
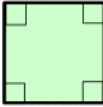
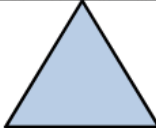
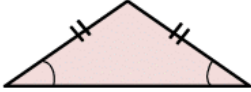
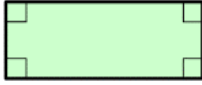

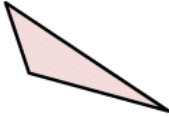
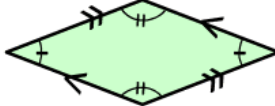
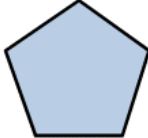
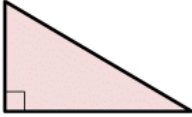
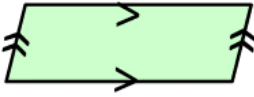
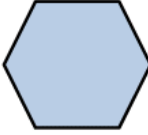
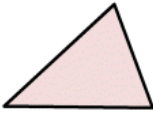
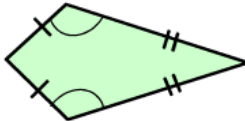
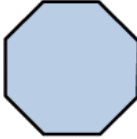
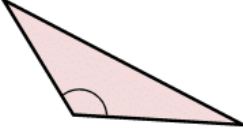
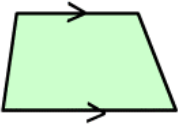
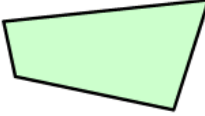
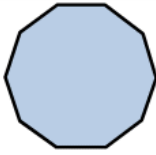


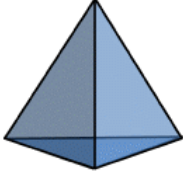
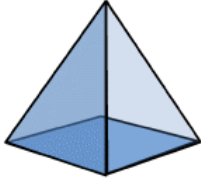

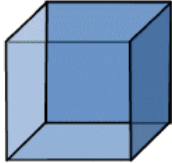

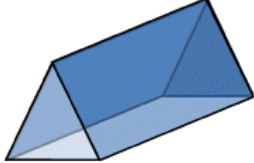

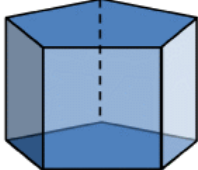
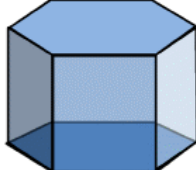
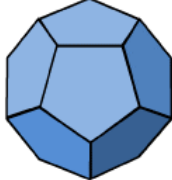
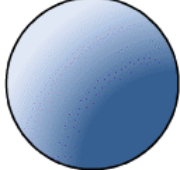
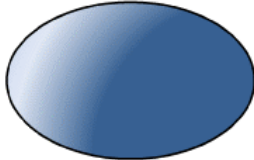


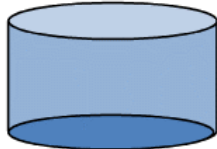
GEOMETRY QUICK GUIDE 1: ANGLES

Angle Types	Angle Rules																											
 Acute angle $< 90^\circ$	<div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;"> <p>Angles in a triangle add up to 180° So $a + b + c = 180^\circ$</p> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;"> <p>Angles on a straight line add up to 180° So $a + b = 180^\circ$</p> </div> </div> <div style="display: flex; align-items: center; margin-bottom: 10px;">  <div style="margin-left: 10px;"> <p>Angles in a quadrilateral add up to 360°. So $a + b + c + d = 360^\circ$</p> </div> </div> <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Angles around a point add up to 360°. So $a + b + c + d + e = 360^\circ$</p> </div> </div>																											
 Right angle $= 90^\circ$																												
 Obtuse angle $> 90^\circ$ and $< 180^\circ$																												
 Straight line $= 180^\circ$	<p><u>Angles in regular shapes</u></p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th>Name of shape</th> <th>Sides</th> <th>Interior angles</th> </tr> </thead> <tbody> <tr> <td>equilateral triangle</td> <td>3</td> <td>60°</td> </tr> <tr> <td>square</td> <td>4</td> <td>90°</td> </tr> <tr> <td>regular pentagon</td> <td>5</td> <td>108°</td> </tr> <tr> <td>regular hexagon</td> <td>6</td> <td>120°</td> </tr> <tr> <td>regular heptagon</td> <td>7</td> <td>128.6°</td> </tr> <tr> <td>regular octagon</td> <td>8</td> <td>135°</td> </tr> <tr> <td>regular nonagon</td> <td>9</td> <td>140°</td> </tr> <tr> <td>regular decagon</td> <td>10</td> <td>144°</td> </tr> </tbody> </table> <p style="text-align: center; margin-top: 10px;">Interior angles of regular n-sided polygons add up to $180(n-2)^\circ$</p>	Name of shape	Sides	Interior angles	equilateral triangle	3	60°	square	4	90°	regular pentagon	5	108°	regular hexagon	6	120°	regular heptagon	7	128.6°	regular octagon	8	135°	regular nonagon	9	140°	regular decagon	10	144°
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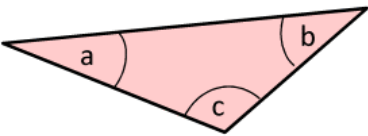
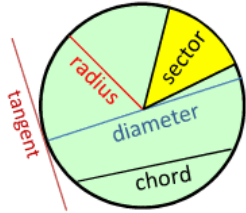
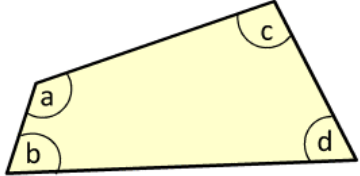
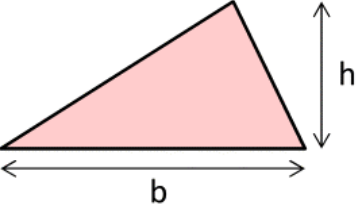
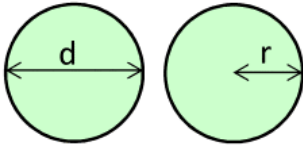
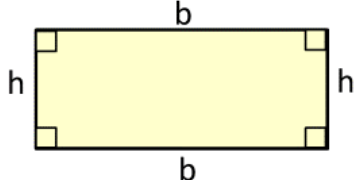
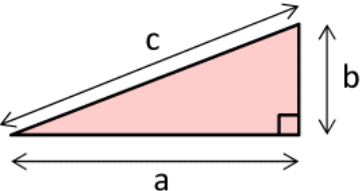
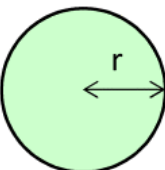
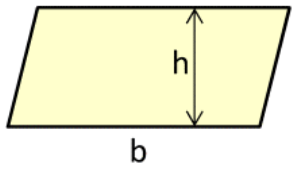
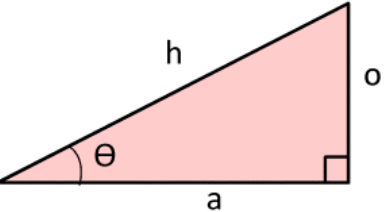
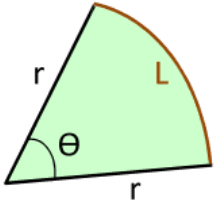
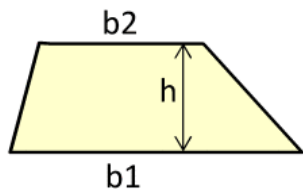
GEOMETRY QUICK GUIDE 2: 2D SHAPES (UK)

TRIANGLES	QUADRILATERALS		REGULAR POLYGONS
			
Equilateral triangle All sides equal; interior angles 60°	Square All sides equal; all angles 90°		Equilateral triangle 3 sides; angle 60°
			
Isosceles triangle 2 sides equal; 2 congruent angles	Rectangle Opposite sides equal, all angles 90°		Square 4 sides; angle 90°
			
Scalene triangle No sides or angles equal	Rhombus All sides equal; 2 pairs of parallel lines; opposite angles equal		Regular Pentagon 5 sides; angle 108°
			
Right triangle 1 right angle	Parallelogram Opposite sides equal, 2 pairs of parallel lines		Regular Hexagon 6 sides; angle 120°
			
Acute triangle All angles acute	Kite Adjacent sides equal; 2 congruent angles		Regular Octagon 8 sides; angle 135°
			
Obtuse triangle 1 obtuse angle	Trapezium 1 pair of parallel sides	Trapezoid No pairs of parallel sides	Regular Decagon 10 sides; angle 144°

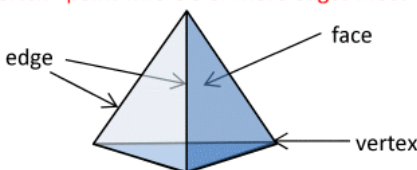
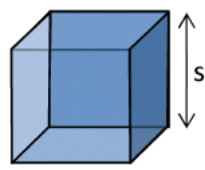
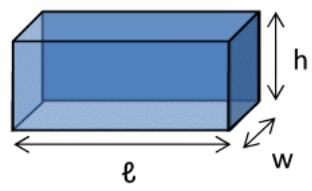
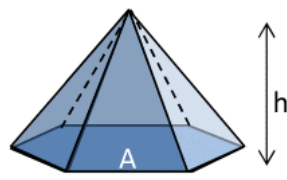
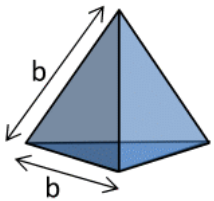
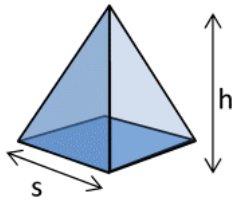
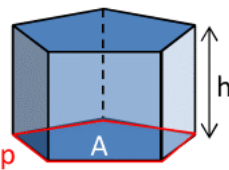
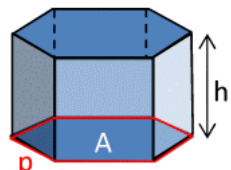
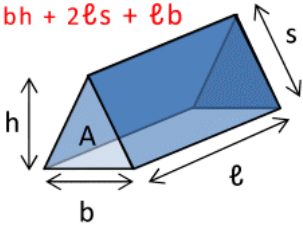
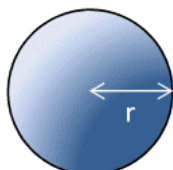
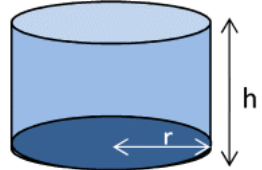
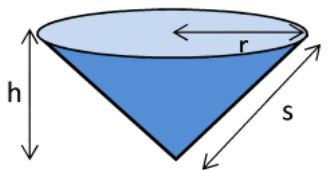
GEOMETRY QUICK GUIDE 3: 3D SHAPES

		
Tetrahedron Faces: 4; Edges: 6; Vertices: 4	Square pyramid Faces: 5; Edges: 8; Vertices: 5	Hexagonal pyramid Faces: 7; Edges: 12; Vertices: 7
		
Cube Faces: 6; Edges: 12; Vertices: 8	Cuboid Faces: 6; Edges: 12; Vertices: 8	Triangular prism Faces: 5; Edges: 9; Vertices: 6
		
Octahedron Faces: 8; Edges: 12; Vertices: 6	Pentagonal prism Faces: 7; Edges: 15; Vertices: 10	Hexagonal prism Faces: 8; Edges: 18; Vertices: 12
		
Dodecahedron Faces: 12; Edges: 30; Vertices: 20	Sphere Faces: 0 or 1; Edges: 0; Vertices 0	Ellipsoid Faces: 0 or 1; Edges: 0; Vertices 0
		
Icosahedron Faces: 20; Edges: 30; Vertices: 12	Cone Faces: 1 or 2; Edges: 0 or 1; Vertices: 0 or 1	Cylinder Faces: 2 or 3; Edges: 0 or 2; Vertices: 0

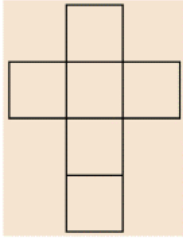
GEOMETRY QUICK GUIDE 4: 2D SHAPES FORMULAS

TRIANGLE FORMULAS	CIRCLE FORMULAS	QUADRILATERAL FORMULAS
		
Angles in a triangle add up to 180° . So $a + b + c = 180^\circ$	Parts of a circle	Angles in a quadrilateral add up to 360° . So $a + b + c + d = 360^\circ$
		
Area of a triangle $= \frac{1}{2} \times b \times h$ or $\frac{1}{2} bh$	Circumference of a circle $= 2\pi r$ or πd	Area of a rectangle $= b \times h$ Perimeter of a rectangle $= 2b + 2h$
		
Pythagoras' theorem In a right triangle $a^2 + b^2 = c^2$	Area of a circle $= \pi r^2$	Area of a parallelogram $= b \times h$
		
Basic trigonometry laws $\sin \theta = o/h$ $\cos \theta = a/h$ $\tan \theta = o/a$	The length L of an arc $= 2\pi r(\theta/360)$ The area of a sector $= \pi r^2 (\theta/360)$	Area of a trapezium $= \frac{1}{2} (b_1 + b_2) \times h$

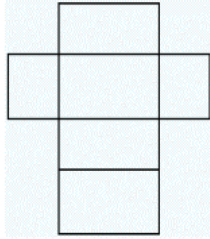
GEOMETRY QUICK GUIDE 5: 3D SHAPE FORMULAS

<p>3D SHAPES All 3d shapes can be described in terms of their faces, vertices and edges. Face - a flat or curved surface Edge - line where 2 faces meet Vertex - point where 3 or more edges meet</p> 	<p>CUBE Volume = s^3 Surface area = $6s^2$ <i>where s is the length of one side</i></p> 	<p>CUBOID (RECTANGULAR PRISM) Volume = $\ell \times w \times h$ Surface area = $2\ell h + 2\ell w + 2wh$ <i>where ℓ = length, w = width, h = height</i></p> 
<p>PYRAMIDS Volume of a general pyramid = $\frac{1}{3} Ah$ <i>where A = base area and h = height</i></p> 	<p>REGULAR TETRAHEDRON Volume = $\frac{b^3}{6\sqrt{2}}$ Surface area = $\sqrt{3}b^2$</p> 	<p>SQUARE PYRAMID Volume = $\frac{1}{3} s^2 h$ Surface area = $s^2 + 2sh$</p> 
<p>PRISMS Volume of any prism = Ah Surface area of a closed prism = $2A + (h \times p)$ <i>where A = base area, h = height, p = base perimeter</i></p>  		<p>TRIANGULAR PRISM Volume = $A\ell$ or $\frac{1}{2}bh\ell$ Surface area = $bh + 2\ell s + \ell b$</p> 
<p>SPHERES Volume = $\frac{4}{3} \pi r^3$ Surface area = $4\pi r^2$</p> 	<p>RIGHT CYLINDER Volume = $\pi r^2 h$ Surface area = $2\pi r (r + h)$</p> 	<p>RIGHT CIRCULAR CONE Volume = $\frac{1}{3} \pi r^2 h$ Surface area = $\pi r (r + s)$</p> 

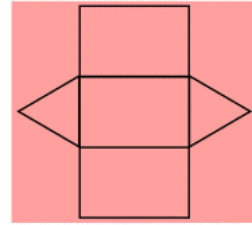
NETS INFORMATION SHEET 2



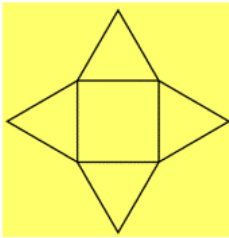
Cube
 Faces: 6
 Edges: 12
 Vertices: 8



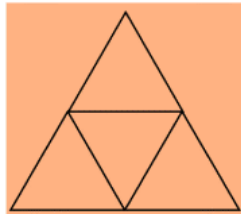
Cuboid
 Faces: 6
 Edges: 12
 Vertices: 8



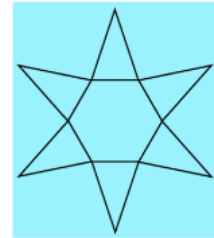
Triangular Prism
 Faces: 5
 Edges: 9
 Vertices: 6



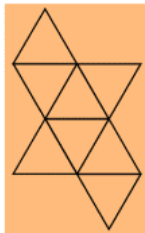
Square-based Pyramid
 Faces: 5
 Edges: 8
 Vertices: 5



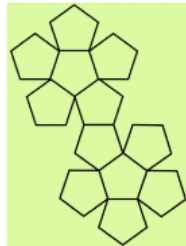
Tetrahedron
 (Triangular-based Pyramid)
 Faces: 4
 Edges: 6
 Vertices: 4



Hexagonal-based Pyramid
 Faces: 7
 Edges: 12
 Vertices: 7



Octahedron
 Faces: 8
 Edges: 12
 Vertices: 6



Dodecahedron
 Faces: 12
 Edges: 30
 Vertices: 20



Icosahedron
 Faces: 20
 Edges: 30
 Vertices: 12