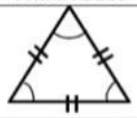
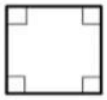
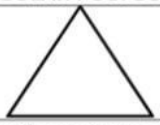
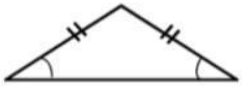
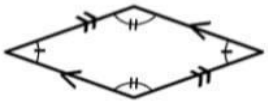
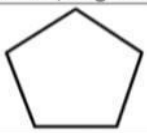
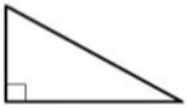
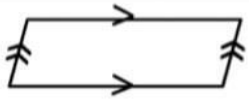
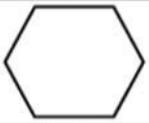
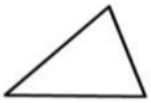
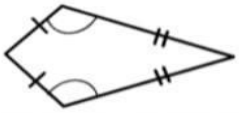
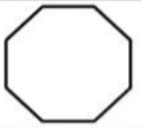
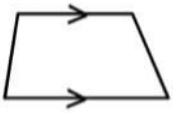
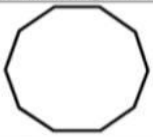
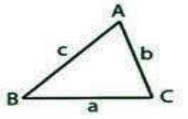
Geometry:

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°

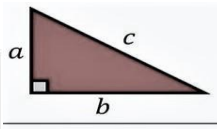


Law of sines

$$\frac{sin(A)}{a} = \frac{\sin(B)}{b} = \frac{\sin(C)}{c}$$

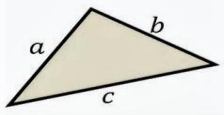
Law of Cosines

$$c^2 = a^2 + b^2 - 2ab\cos(C)$$
$$a^2 = b^2 + c^2 - 2bc\cos(A)$$
$$b^2 = a^2 + c^2 - 2ac\cos(B)$$



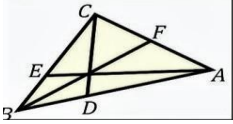
Pythagoras' Theorem

$a^2 + b^2 = c^2$



Heron's Formula

$$Area = \sqrt{s(s-a)(s-b)(s-c)}$$
$$Semiperimeter, s = \frac{a+b+c}{2}$$



Ceva's Theorem

Given AE, BF & CD concurrent,

$$\frac{AD}{BD} \times \frac{BE}{CE} \times \frac{CF}{AF} = 1$$