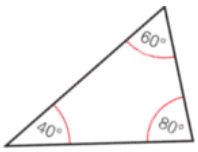
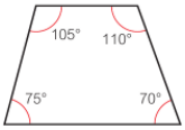
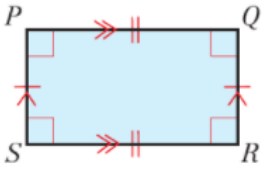
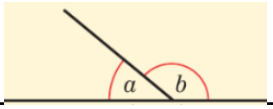
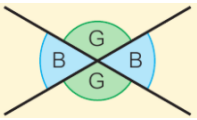
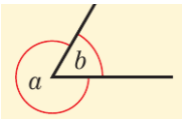
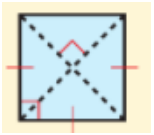
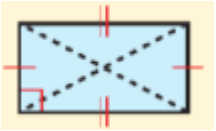
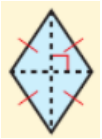
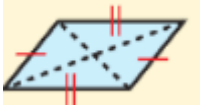
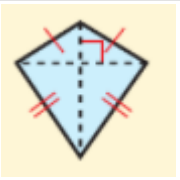
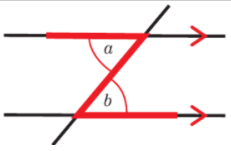
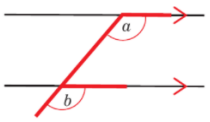
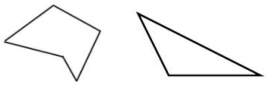
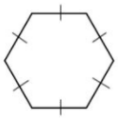
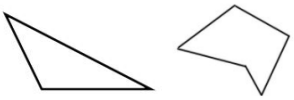
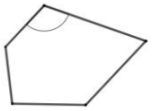
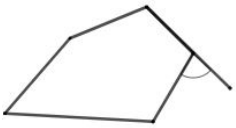
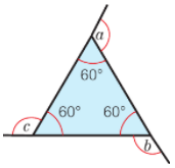
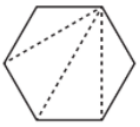
KS3 2: Unit 7 Lines and angles **Knowledge Organiser**

Prior Knowledge			
1	Triangle angle sum		"Angles in a triangle add to 180°"
2	Quadrilateral		A quadrilateral is a 2D shape with 4 straight sides.
3	Quadrilateral angle sum		"Angles in a quadrilateral add to 360°"
4	Geometric notation		Squares in corners mean the angle is 90° (a right angle). Matching dashes show that lines are equal length. Matching arrows show that lines are parallel.
5	Angles on a straight line		"Angles on a straight line add to 180°"
6	Angles on intersecting lines		"Vertically opposite angles are equal."
7	Angles around a point		"Angles around a point add to 360°"
Core Knowledge			
8	Diagonal		A diagonal is a straight line that joins 2 opposite vertices of a shape.
9	Bisect		To cut in half
10	Properties of a square		• All sides are equal in length • Opposite sides are parallel • All angles are 90° • Diagonals bisect each other at 90°
11	Properties of a rectangle		• Opposite sides are equal in length • Opposite sides are parallel • All angles are 90° • Diagonals bisect each other
12	Properties of a rhombus		• All sides are equal in length • Opposite sides are parallel • Opposite angles are equal • Diagonals bisect each other at 90°
13	Properties of a parallelogram		• Opposite sides are equal in length • Opposite sides are parallel • Opposite angles are equal • Diagonals bisect each other

14	Properties of a trapezium		• 1 pair of parallel sides
15	Properties of an isosceles trapezium		• 1 pair of parallel sides • 2 sides are equal in length • 2 pairs of equal angles
16	Properties of a kite		• 2 pairs of sides are equal in length • No parallel sides • 1 pair of equal angles • Diagonals bisect each other at 90°
17	Proof		A proof uses logical reasoning to show that a theory is true. Angle facts are used to support a proof.
18	Alternate angles		"Alternate angles are equal"
19	Corresponding angles		"Corresponding angles are equal"
20	Polygon		A polygon is a closed 2D shape with straight sides.
21	Regular polygon		A regular polygon has all sides equal in length and all angles equal.
22	Irregular polygon		In an irregular polygon sides are not all equal lengths and angles are not all equal.
23	Interior angle		The angle inside the shape at a vertex.
24	Exterior angle		The interior and exterior angle at one vertex add to 180°.
25	Exterior angle sum		The exterior angles of a polygon add to 360°. You can work out the exterior angle of a **regular** polygon by dividing 360 by the number of sides.
26	Interior angle sum		180 x (n – 2) where n is the number of sides Each additional side adds 180°. In a regular polygon, each interior angle = $\frac{180(n-2)}{n}$

*Angle facts which can be used for proofs and reasons are given in quotes.