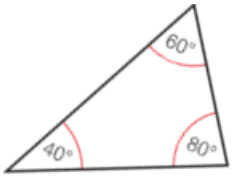
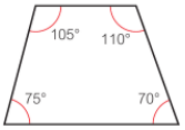
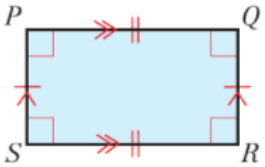
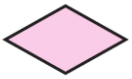
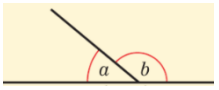
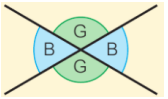
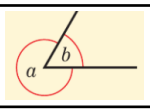
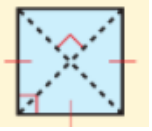
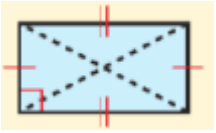
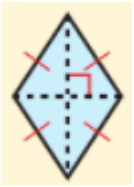
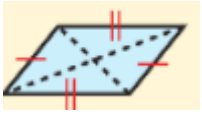
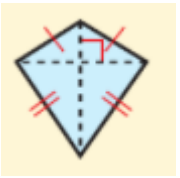
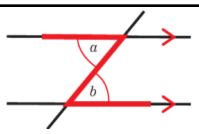
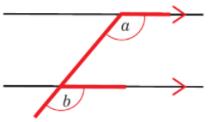
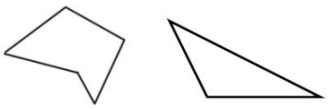
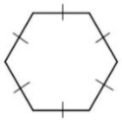
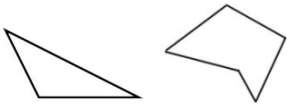
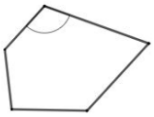
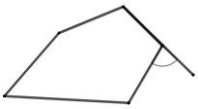
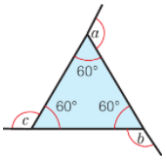
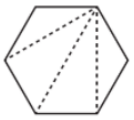
Year 8: Unit 7 Lines and angles **Knowledge Organiser**

Prior Knowledge		
What do the angles in a triangle add up to?		"Angles in a triangle add to 180°"
Define quadrilateral.		A quadrilateral is a 2D shape with 4 straight sides.
What do the angles in a quadrilateral add up to?		"Angles in a quadrilateral add to 360°"
Explain the 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.
List the types of quadrilaterals.		Square
		Rectangle
		Parallelogram
		Rhombus
		Trapezium
		Isosceles trapezium
		Kite
What do angles on a straight line add up to?		"Angles on a straight line add to 180°"
Angles on intersecting lines.		"Vertically opposite angles are equal."
Angles around a point		"Angles around a point add to 360°"
Core Knowledge		
Define diagonal		A diagonal is a straight line that joins 2 opposite vertices of a shape.
Define bisect		Cut in half.
Describe the properties of the different types of quadrilaterals:		
Square		• All sides are equal in length • Opposite sides are parallel • All angles are 90° • Diagonals bisect each other at 90°

Rectangle		• Opposite sides are equal in length • Opposite sides are parallel • All angles are 90° • Diagonals bisect each other
Rhombus		• All sides are equal in length • Opposite sides are parallel • Opposite angles are equal • Diagonals bisect each other at 90°
Parallelogram		• Opposite sides are equal in length • Opposite sides are parallel • Opposite angles are equal • Diagonals bisect each other
Trapezium		• 1 pair of parallel sides
Isosceles trapezium		• 1 pair of parallel sides • 2 sides are equal in length • 2 pairs of equal angles
Kite		• 2 pairs of sides are equal in length • No parallel sides • 1 pair of equal angles • Diagonals bisect each other at 90°
What is a proof?		A proof uses logical reasoning to show that a theory is true. Use known angle facts to support a proof.
Alternate angles		“Alternate angles are equal”
Corresponding angles		“Corresponding angles are equal”
Define polygon		A polygon is a closed 2D shape with straight sides.
What is a regular polygon?		A regular polygon has all sides equal in length and all angles equal.
What is an irregular polygon?		In an irregular polygon sides are not all equal lengths and angles are not all equal.
Interior angle		The angle inside the shape at a vertex.
Exterior angle		The interior and exterior angle at one vertex add to 180°.

What do the exterior angles of a polygon add up to?		360°
What do the interior angles of an n sided polygon add up to?		180 x (n – 2) (n is the number of sides)

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