Year 9 Maths Learning Journey

Spring Term 4

Reasoning with geometry: Deduction

| Core knowledge	Reference number
Angles in parallel lines (R) "What do co-interior angles sum to?"	WORKSHEET
Solve angle problems using chains of reasoning "What angle facts can we use to solve this problem?"	WORKSHEET
Angle problems with algebra "How do you simplify an algebraic expression?"	WORKSHEET
Conjectures with algebra "What is a conjecture?"	WORKSHEET
Conjectures with shapes "Make a conjecture about the angles in a parallelogram"	WORKSHEET
Link constructions and geometrical reasoning (H) "What's the same and what's different about 'drawing' and 'constructing'?"	WORKSHEET

Learning Checkpoints

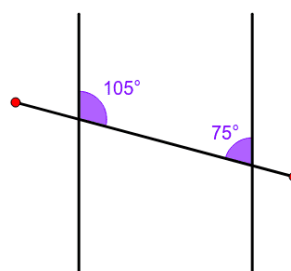| LC Title	Completed	Dirt
Deduction		

Corresponding Angles
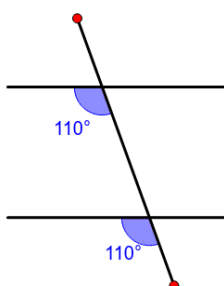
Alternate Angles
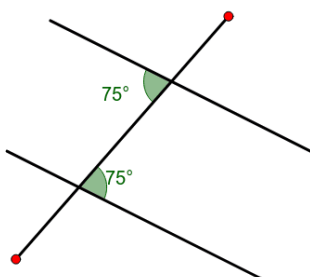
Interior Angles

Key Vocabulary

Alternate: see diagram

Bisect: In geometry, to divide into two equal parts

Co-interior: see diagram

Construct: in Geometry means to draw shapes, angles or lines accurately.

Corresponding: see diagram

Counter-example: Where a hypothesis or general statement is offered, an example that clearly disproves it.

Diagonal: A line segment joining any two non-adjacent vertices of a polygon.

Equation: A mathematical statement showing that two expressions are equal.

Equidistant: The same distance (from each other, or in relation to other things). Example: parallel lines are always equidistant.

Exterior: Of a polygon, the angle formed outside between one side and the adjacent side produced.

Interior: At a vertex of a polygon, the angle that lies within the polygon.

Isosceles: A triangle in which two sides have the same length and consequently two angles are equal.

Justify: A triangle in which two sides have the same length and consequently two angles are equal.

Kite: A flat shape with 4 straight sides that has two pairs of sides. Each pair is made of two adjacent sides (they meet) that are equal in length.

Locus: The set of all points that share a property. This usually results in a curve or surface.

Parallel: In Euclidean geometry, always equidistant. Parallel lines, curves and planes never meet however far they are produced or extended.

Parallelogram: A quadrilateral whose opposite sides are parallel and consequently equal in length.

Polygon: A closed plane figure bounded by straight lines. The name derives from many angles.

Prove: To formulate a chain of reasoning that establishes in conclusion the truth of a proposition.

Regular: To formulate a chain of reasoning that establishes in conclusion the truth of a proposition.

Rhombus: A parallelogram with all sides equal.

Transversal: A line that crosses at least two other lines.