



Year 9 Maths Learning Journey

Summer Term 5

Representations and revision: Algebraic representation

Core knowledge	Reference number
<u>Draw and interpret quadratic graphs</u> “How can you tell from an equation whether the graph will be a straight line or a parabola?”	WORKSHEET
<u>Interpret graphs, including reciprocal and piece-wise</u> “Why is there no y value for $x=0$ on the graph of $y = 1/x$?”	WORKSHEET
<u>Investigate graphs of simultaneous equations (H)</u> “What values of x and y do you use to find where straight line graphs meet the coordinate axes?”	WORKSHEET
<u>Represent inequalities</u> “On a graph, what’s the difference in meaning between a dotted line and a solid line that border a region?”	WORKSHEET

Learning Checkpoints

LC Title	Completed	Dirt
Algebraic representation		

Key Vocabulary

Curve: A curve is a shape or a line which is smoothly drawn in a plane having a bent or turns in it.

Discontinuous: having intervals or gaps.

Excluded: values that are excluded, or left out.

Exponential: (of an increase) becoming more and more rapid.

Included: something that is between two other things. An included angle is an angle that is between two given sides or lines.

Inequality: When one number, or quantity, is not equal to another.

Intersection: The elements that are common to two or more sets

Parabola: a symmetrical open plane curve formed by the intersection of a cone with a plane parallel to its side. The path of a projectile under the influence of gravity follows a curve of this shape.

Piece-wise: a function which is defined by multiple sub-functions, each sub-function applying to a certain interval of the main function's domain (a sub-domain).

Quadratic: Describing a expression of the form $ax^2 + bx + c$ where a , b and c are real numbers

Reciprocal: The multiplicative inverse of any non-zero number

Satisfy: A value (or values) that solve an equation

Simultaneous: occurring, operating, or done at the same time.

Solution: A value or values which, when substituted for a variable in an equation, make the equation true

Symmetry: the quality of being made up of exactly similar parts facing each other or around an axis.

Test point: a chosen point to test the inequality not on the line drawn, where the point lies in one of the half-planes formed by the boundary line.

Turning point: A stationary point is called a turning point if the derivative changes sign (from positive to negative, or vice versa) at that point.

Vertex: The point at which two or more lines intersect. Plural: vertices.