Topic Sequence: Graphs

1	2	3
Gradients and Lines	Non-Linear Graphs	Using Graphs

Topic Overview: Non-Linear Graphs

Students develop their knowledge of non-linear graphs in this topic, looking at quadratic, cubic, and reciprocal graphs. Content includes moving freely between different numerical, algebraic, graphical and diagrammatical representations, recognising, sketching and interpreting graphs of linear functions, quadratic functions and simple cubic and reciprocal functions, plotting and interpreting graphs, finding approximate solutinos and identifying and interpreting roots

Learning Sequence:

Drawing quadratic graphs from a table:
Students must be able to substitute into an expression with an x^2 in it. When plotting the graphs the points are joined with a smooth curve.

Plot and read from quadratic and cubic graphs
Using calculator and non-calculator methods, students plot cubic graphs using a table of values, ensuring they use a smooth curve to join the points

Plot and read from reciprocal graphs
Students investigate the reciprocal function and become familiar with the concept of asymptotes

Recognise graph shapes
Students analyse the similarities and differences of linear, quadratic, cubic and reciprocal graphs

Roots and intercepts of quadratics
Students start by identifying a root from a graph and understand that quadratics can have 0, 1 or 2 roots.

Sequence of Learning:	
1	Plot and read from quadratic and cubic graphs
2	Plot and read from cubic graphs
3	Plot and read from reciprocal graphs
4	Recognise graph shapes
5	Roots and intecepts of quadratics

Topic Resources:	
Knowledge Map:	Non-Linear Graphs quadratic and cubic Non-Linear Graphs other

Assessment:	
Knowledge:	End of Topic test
Application of Knowledge:	Termly summative assessment

Supportive Reading:	
Any supported reading listed here	Sparx Maths www.sparxmaths.co.uk
	Corbett Maths : www.corbettmaths.com
	AQA Revision Guide