

QUADRATIC GRAPHS	
34	The quadratic graph a curved shape called a parabola $y = ax^2 + bx + c$
35	A positive x^2 term will give a \cup shape
36	A negative $(-x^2)$ term will give a \cap shape
37	Turning points The point where a curve turns in the opposite direction Either a maximum or a minimum point
38	Line of symmetry A quadratic graph will have a line of symmetry passing through its maximum or minimum point
39	Solution to the quadratic equation $ax^2 + bx + c = 0$
40	Roots The x-values where the graph crosses the x-axis
41	A quadratic equation can have 0, 1, or 2 solutions
CUBIC GRAPHS	
42	$y = ax^3 + bx^2 + cx + d$ Will have 1, 2, or 3 roots
	$y = x^3 + 2x^2 + 4$ $y = -x^3 + x^2 - x + 3$
OTHER FUNCTIONS	
43	Reciprocal functions Reciprocal graphs have the form $y = \frac{k}{x}$ where k is a number
44	It will have 2 asymptotes
45	Maximum and minimum points A quadratic graph has a maximum point or minimum point where the graph turns.
46	Cubic functions A cubic function contains an x^3 but no higher power of x. It can have an x^2 and x term
47	A cubic equation can have 1, 2, or 3 solutions

GRAPHS OF CIRCLES	
48	Equation of a circle Circle with a centre of (0, 0) and radius r $x^2 + y^2 = r^2$
49	Gradient between 2 points If A = (x ₁ , y ₁) and B = (x ₂ , y ₂) The gradient of line AB $m = \frac{y_2 - y_1}{x_2 - x_1}$
50	Perpendicular lines When lines are perpendicular the product of the gradients is -1. If one graph has gradient m, the other has gradient $-\frac{1}{m}$
51	Gradient of a radius to a circle The gradient (m) of a radius to a point (x, y) on the circle $x^2 + y^2 = r^2$ is $\frac{y}{x}$
DISTANCE – TIME GRAPHS	
52	Represent a journey
53	The vertical axis represents the distance from a starting point
54	The horizontal axis represents time taken
55	Straight lines mean constant speed
56	Horizontal lines mean no movement
57	Gradient = speed
58	$Average\ speed = \frac{Total\ distance}{Total\ time}$
	 A = steady speed, B = no movement, C = steady speed back to start
VELOCITY – TIME GRAPHS	
59	Represent the speed at a given time
60	Straight lines mean constant acceleration/deceleration
61	Horizontal lines mean no change in velocity (speed)
62	Positive Gradient = acceleration
63	Negative Gradient = deceleration
64	The area under the graph = distance travelled
	 A = steady acceleration, B = constant speed, C = steady deceleration back to a stop