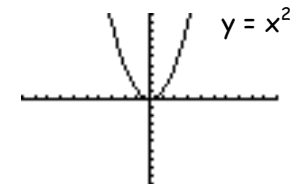




Investigation 1 - Recording Sheet

Substitute different values for a and/or c into $y = ax^2 + c$. Use a variety of values including ones that are: greater than or equal to 1, between 0 and 1, between 0 and -1, less than or equal to -1

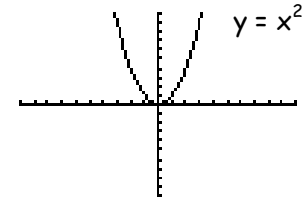


Form	Value of a	Value of c	Equation graphed	Effect on appearance of graph	Effect on location of vertex
1) $y = ax^2$		0			
		0			
		0			
		0			
		0			
Group conclusions:					
2) $y = x^2 + c$	1				
	1				
	1				
	1				
	1				
Group conclusions:					
3) $y = ax^2 + c$					
Group conclusions:					

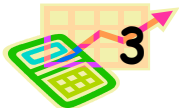


Investigation 2 - Recording Sheet

Substitute different values for a , h and/or k into $y = a(x+h)^2 + k$. Use a variety of values including ones that are: greater than or equal to 1, between 0 and 1, between 0 and -1, less than or equal to -1



Form	Value of a	Value of h	Value of k	Equation graphed	Effect on appearance of graph	Effect on location of vertex
4) $y = (x + h)^2$	1		0			
	1		0			
	1		0			
	1		0			
	1		0			
Group conclusions:						
5) $y = a(x + h)^2$			0			
			0			
			0			
			0			
			0			
Group conclusions:						
6) $y = a(x + h)^2 + k$						
Group conclusions:						



Investigation 3 - Recording Sheet Name That Graph

Try to find the equation for each mystery graph. Write your predicted equation, then graph it on your calculator. Record how its appearance and location of the vertex compare to those of the mystery graph. Revise your equation until its graph is the same as the mystery graph. When you are convinced that your equation is correct, compare it to the mystery graph equation. Are they the same?

Score: 5 points for a correct equation. -1 point for each **incorrect** attempt.

Graph #	Attempt #	Predicted Equation	Check your graph				Actual Equation	Score
			Opens the correct direction	Correct width (i.e., wider or narrower than basic graph)	Correct vertical translation (location above or below the x-axis)	Correct horizontal translation (location to the right or left of the y-axis)		



Name That Graph Recording Sheet – EXAMPLE

Try to find the equation for each mystery graph. Write your predicted equation, then graph it on your calculator. Record how its appearance and location compare to those of the mystery graph. Revise your equation until its graph is the same as the mystery graph. When you are convinced that your equation is correct, compare it to the mystery graph equation. Are they the same?

Score: 5 points for a correct equation. -1 point for each **incorrect** attempt.

Graph #	Attempt #	Predicted Equation	Check your graph				Actual Equation	Score
			Opens the correct direction	Correct width, i.e., wider or narrower than basic graph.	Correct vertical translation (location of vertex above or below the x-axis)	Correct horizontal translation (location of vertex to the right or left of the y-axis)		
1	1	$Y = 2x^2 + 5$				✓		-1
	2	$Y = -2x^2 + 5$	✓			✓		-1
	3	$Y = -x^2 - 10$	✓			✓		-1
	4	$Y = -x^2 - 5$	✓		✓	✓		-1
	5	$Y = -\frac{1}{2}x^2 - 5$	✓	✓	✓	✓	$Y = -\frac{1}{2}x^2 - 5$	5