

Graphing Quadratics – Vertex Form Day 1

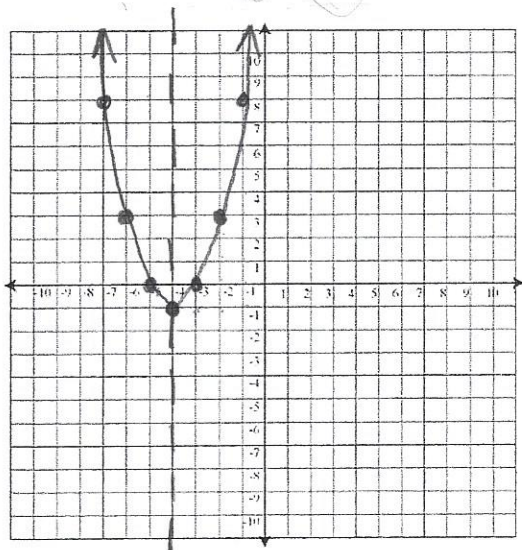
Vertex Form: $y = a(x-h)^2 + k$

Characteristics:

- The vertex is (h, k)
- The axis of symmetry is $x = h$
- The graph opens up if a is + and down if a is -

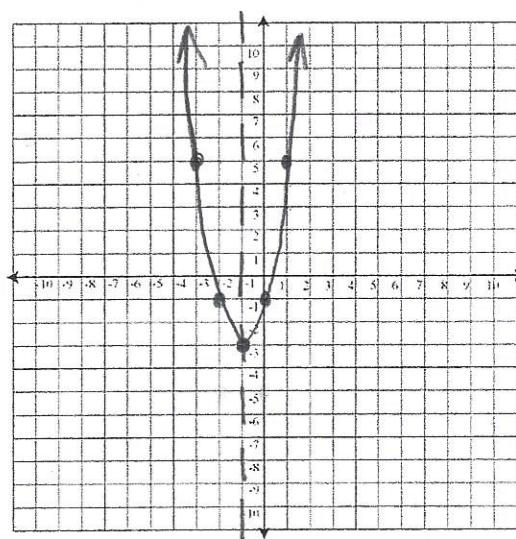
$y = (0+4)^2 - 1$

$y = (x + 4)^2 - 1$



x	y
1	1
2	4
3	9
4	16

$y = 2(x + 1)^2 - 3$



x	y
1	1 = 2
2	4 = 8
3	9 = 18

Vertex	$(-4, -1)$	Max/Min	Min is -1 @ $x = -4$
AOS	$x = -4$	Zero(s)	$-5, -3$
Opens	up	y-intercept	$(0, 15)$
Domain	$(-\infty, \infty)$	Range	$[-1, \infty)$

Vertex	$(-1, -3)$	Max/Min	Min is -3 @ $x = -1$
AOS	$x = -1$	Zero(s)	$-2.5, .5$
Opens	up	y-intercept	$(0, -1)$
Domain	$(-\infty, \infty)$	Range	$[-3, \infty)$