

Name:

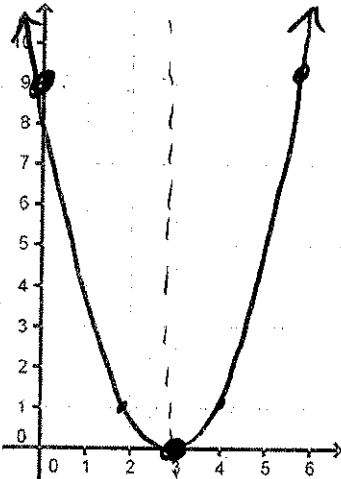
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Practice Worksheet: Graphing Quadratic Functions in Vertex Form $y = a(x-h)^2 + k$

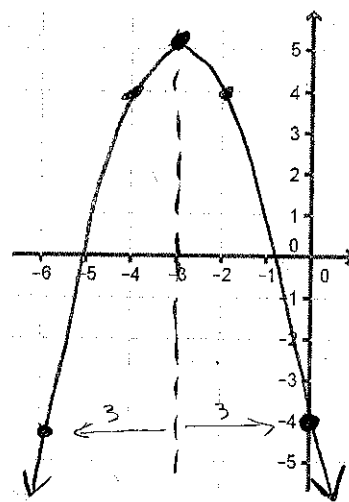
For #1-6, label the axis of symmetry, vertex, y-intercept, and at least three more points on the graph.

1] $y = (x - 3)^2 + 0$
 Axis of Symmetry is $x = 3$
 Vertex: $(3, 0)$
 Opens up or down?
 Slope to point one unit from the vertex is _____
 y-intercept: $(0, 9)$
 $f(2) = 1$
 $f(4) = 1$

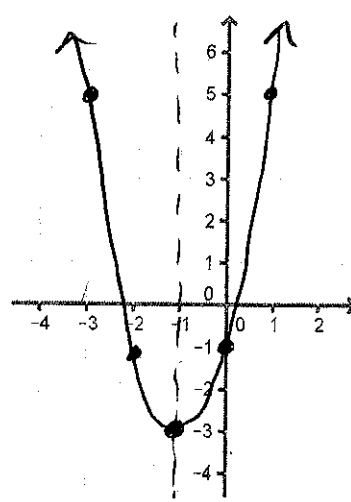


extra points

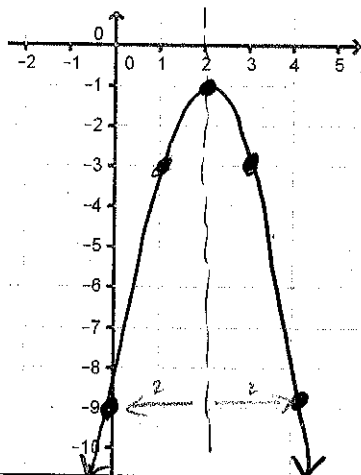
2] $y = -(x + 3)^2 + 5$
 Axis of Symmetry is $x = -3$
 Vertex: $(-3, 5)$
 Opens up or down?
 Slope to point one unit from the vertex is _____
 y-intercept: $(0, -4)$ $f(-4) = 4$
 $f(-2) = 4$
 $y = -(0 + 3)^2 + 5$



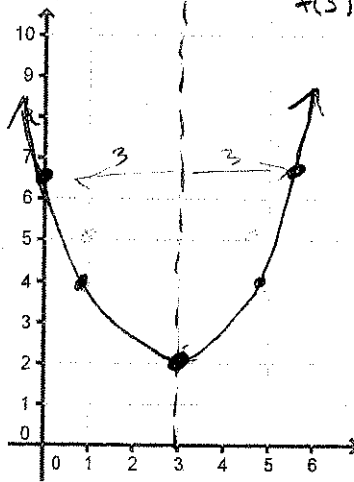
3] $y = 2(x + 1)^2 - 3$
 Axis of Symmetry is $x = -1$
 Vertex: $(-1, -3)$
 Opens up or down?
 Slope to point one unit from the vertex is _____
 y-intercept: $(0, -1)$ $f(1) = 5$
 $f(-3) = 5$
 $y = 2(0 + 1)^2 - 3$



4] $y = -2(x - 2)^2 - 1$
 Axis of Symmetry is $x = 2$
 Vertex: $(2, -1)$
 Opens up or down?
 Slope to point one unit from the vertex is _____
 y-intercept: $(0, -9)$ $f(1) = -3$
 $f(3) = -3$
 $y = -2(0 - 2)^2 - 1$



5] $y = \frac{1}{2}(x - 3)^2 + 2$
 Axis of Symmetry is $x = 3$
 Vertex: $(3, 2)$
 Opens up or down?
 Slope to point one unit from the vertex is _____
 y-intercept: $(0, 6.5)$ $f(1) = 4$
 $f(5) = 4$
 $y = \frac{1}{2}(0 - 3)^2 + 2$



6] $y = -\frac{1}{4}(x + 2)^2 + 1$
 Axis of Symmetry is $x = -2$
 Vertex: $(-2, 1)$
 Opens up or down?
 Slope to point one unit from the vertex is _____
 y-intercept: $(0, 0)$ $f(-3) = \frac{3}{4}$
 $f(-1) = \frac{3}{4}$
 $y = -\frac{1}{4}(0 + 2)^2 + 1$

