Honors Algebra II
Notes Section 1.2

Graph Quadratic Functions in Vertex or Intercept Form

VOCABULARY

Vertex Form	$y = a(x-h)^2 + k$
Vertex	$V (h, k)$
Axis of Symmetry	$x = h$
Intercept Form	$y = a(x-p)(x-q)$
X-intercepts	p and q
Axis of Symmetry	$x = (p + q) / 2$
FOIL Method	First, Outer, Inner & Last Terms

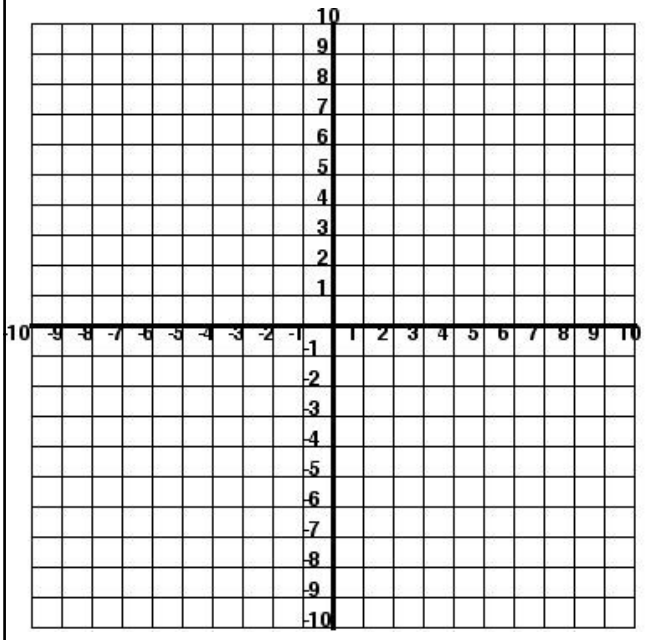
EXAMPLE 1 Graph.

a) $y = -1/4(x+2)^2 + 5$

a = ____ h = ____ k = ____

Vertex( )

Axis of Symmetry: _____

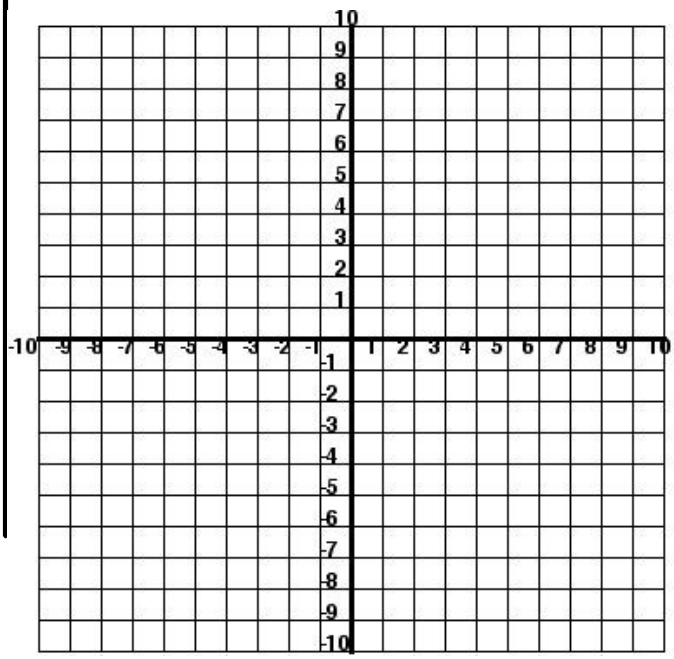


b) $y = (x+2)^2 - 3$

a = ____ h = ____ k = ____

Vertex( )

Axis of Symmetry: _____



EXAMPLE 2 Graph.

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

a = ____ p = ____ q = ____

Step 1 (Find x- coordinate of the vertex)

Step 2 (Find y-coordinate of the vertex)

Vertex( )

Axis of Symmetry: _____

x-intercepts: _____

b) $y = -(x+1)(x-5)$

a = ____ p = ____ q = ____

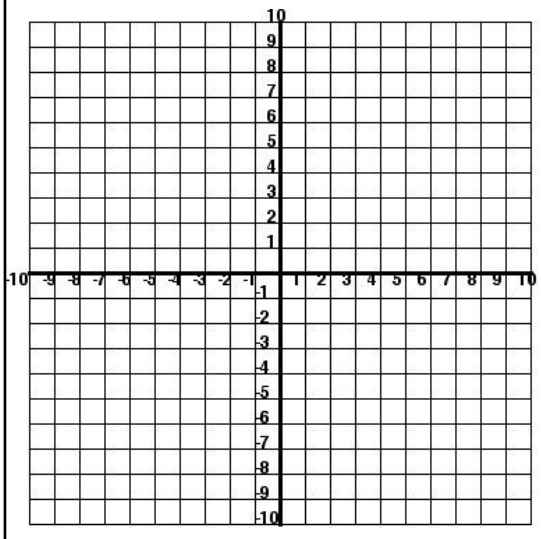
Step 1

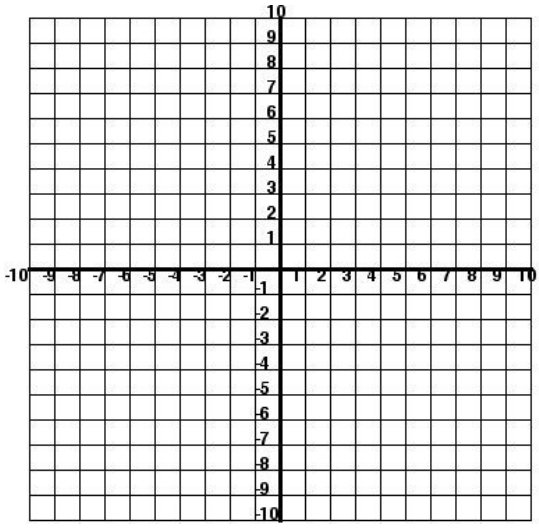
Step 2

Vertex( )

Axis of Symmetry: _____

x-intercepts: _____





EXAMPLE 3

What is the distance between x-intercepts and the min/max height of the parabola?

a) $y = 1/7000(x-1400)^2 + 27$

Vertex ( )

Distance = _____

Min/Max Value: _____

b) $y = -0.026(x-46)$

Vertex ( )

Distance = _____

Min/Max Value: _____

EXAMPLE 4 Change from Intercept Form to Standard Form.

a) $y = -2(x+5)(x-8)$

b) $f(x) = -(x-2)(x-7)$

EXAMPLE 5 Change from Vertex Form to Standard Form.

a) $f(x) = 4(x-1)^2 + 9$

b) $y = 3(x+5)^2 - 1$