

Name: _____

Date: _____

So far, we have learned to graph quadratic functions in:

- Standard Form
- Factored Form

Today we will look at graphing quadratic functions in Vertex Form.

Warmup Expand and simplify

a. $y = (x - 2)(3x - 4)$

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

Exploration: Use your graphing calculator to graph each pair of functions below. Compare the second function to $y = x^2$.

a. $y = x^2$ and $y = (x - 2)^2$

b. $y = x^2$ and $y = (x + 2)^2$

c. $y = x^2$ and $y = x^2 + 3$

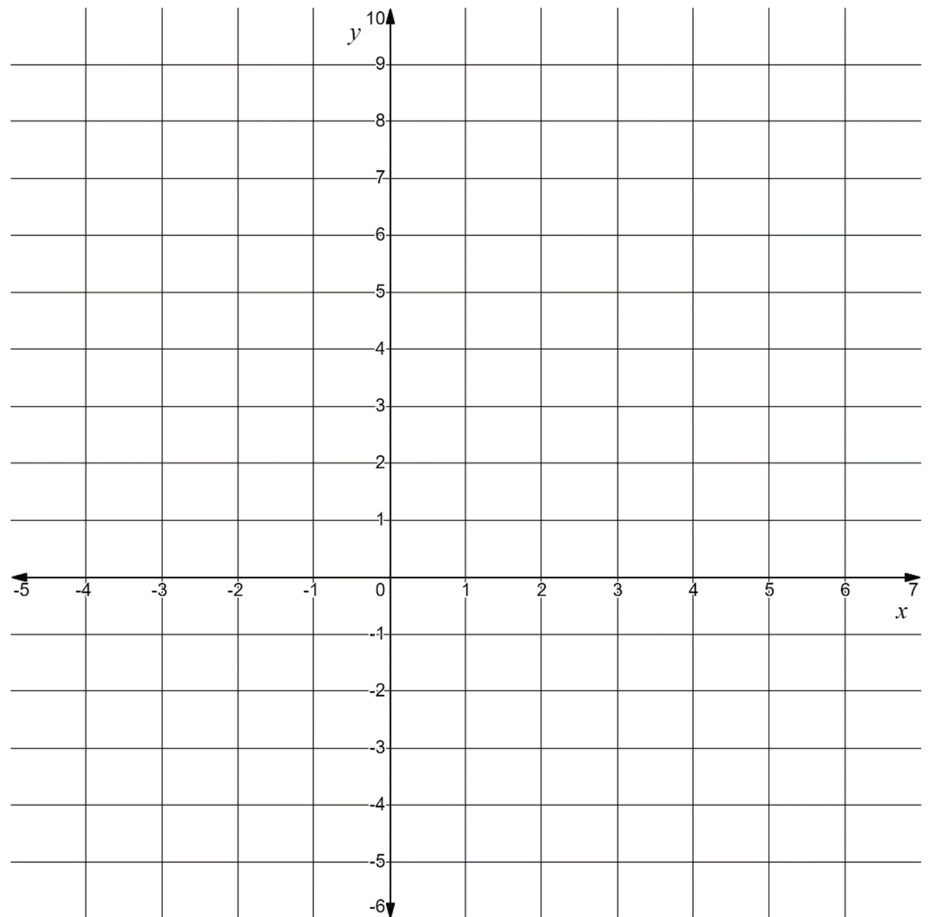
d. $y = x^2$ and $y = x^2 - 3$

e. $y = x^2$ and $y = (x - 2)^2 + 3$

f. $y = x^2$ and $y = (x + 4)^2 - 5$

Vertex form of a quadratic function:

Example Sketch the graph of $f(x) = (x - 1)^2 - 5$



Example Predict the number of zeros each quadratic function will have.

a. $y = -2(x - 4)^2 + 3$

b. $g(x) = 2(x + 1)^2 + 4$