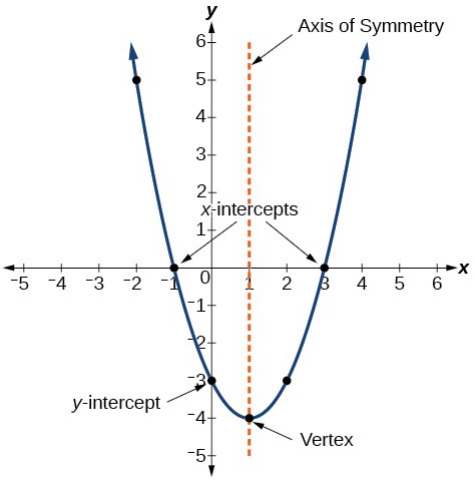
Precalculus

2-02 Quadratic Equations



$$f(x) = ax^2 + bx + c$$

- $|a| > 1$ → _____
- $0 < |a| < 1$ → _____
- $a < 0$ → _____ over x-axis "opens _____"
- $a > 0$ → "opens _____"

Standard Form

$$f(x) = a(x-h)^2 + k$$

- Vertex _____
- Axis of symmetry _____

To graph

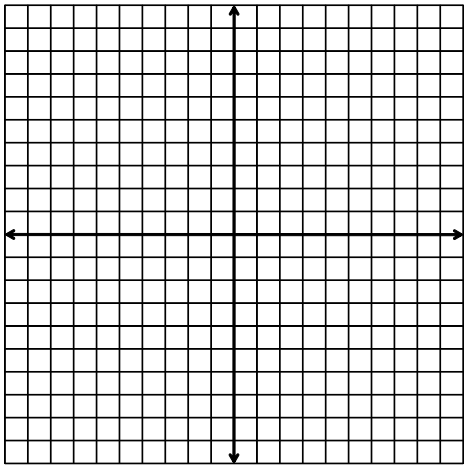
1. Find _____
2. Make _____ around vertex
3. Draw _____

General Form

$$f(x) = ax^2 + bx + c$$

- Vertex _____
-
- Axis _____

Graph $f(x) = x^2 - 10x + 25$ and identify the vertex and axis of symmetry



Write the standard form of the equation of parabola with vertex $(-4,\ 11)$ and passes through $(-6,\ 15)$

Maximum and minimum

- Occurs at the _____

Quadratic formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Solve $8x^2 + 14x + 9 = 0$