15.1 Properties of Quadratic Functions Name_____

Graphing Quadratics

- Quadratic Graphs
  - $f(x) = ax^2 + bx + c$
  - Vertex: $\left(\frac{-b}{2a}, f\left(\frac{-b}{2a}\right)\right)$ Axis of symmetry:

- Standard Form
  - $y = a(x-h)^2 + k$
  - Vertex: (h,k) Axis of symmetry:

If $a > 0$, graph has a minimum of:

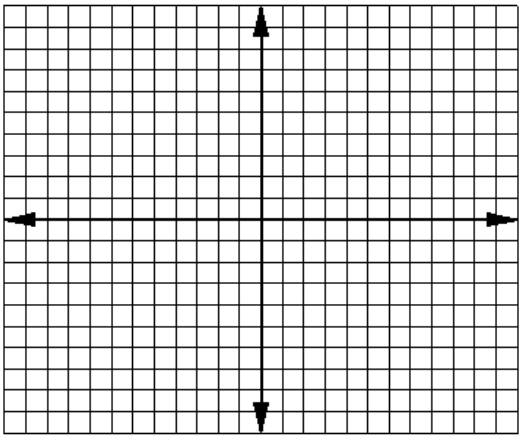
If $a < 0$, graph has a maximum of:

- Discriminant:
  - If discriminant equals zero then:
  - If discriminant less than zero then:
  - If discriminant greater than zero then:

Graph the following and state all information.

1. $f(x) = x^2 - 6x + 11$

x	g(x)



vertex _____

axis of sym. _____

max/min. _____

x-intercepts_____

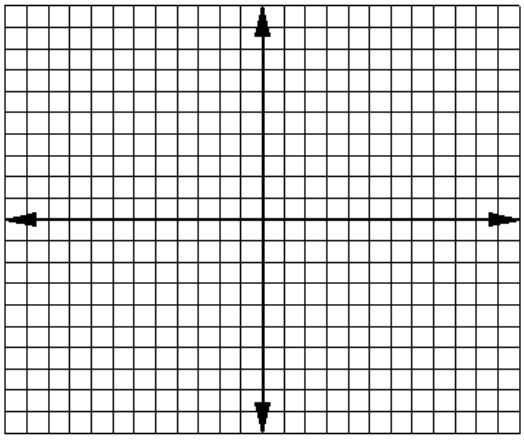
y-intercept_____

domain_____

range_____

2. $f(x) = 2x^2 - 16x + 23$

x	h(x)



vertex _____

axis of sym. _____

max/min. _____

x-intercepts_____

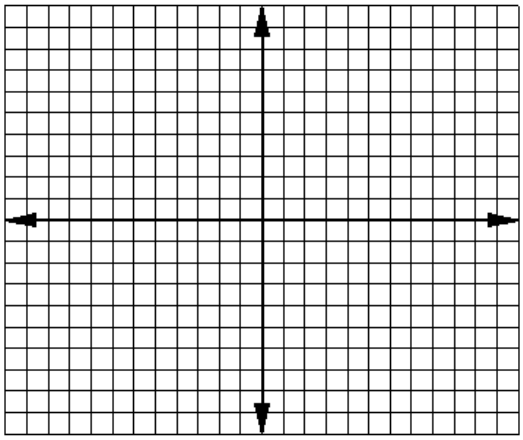
y-intercept_____

domain_____

range_____

3. $f(x) = x^2 - 5x$

x	f(x)



vertex _____

axis of sym. _____

max/min. _____

x-intercepts_____

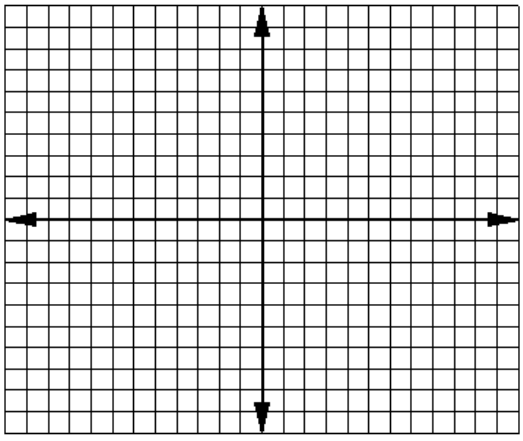
y-intercept_____

domain_____

range_____

4. $f(x) = -3x^2 + 6x + 2$

x	f(x)



vertex _____

axis of sym. _____

max/min. _____

x-intercepts_____

y-intercept_____

domain_____

range_____