

Name \_\_\_\_\_

## Worksheet Graphing Quadratics from Standard Form

Find the vertex, axis of symmetry, x-intercepts, y-intercept, value of the max/min, domain, and range of the following quadratics and then graph the parabola.

1.  $f(x) = 3x^2$

vertex \_\_\_\_\_

axis \_\_\_\_\_

x-int \_\_\_\_\_

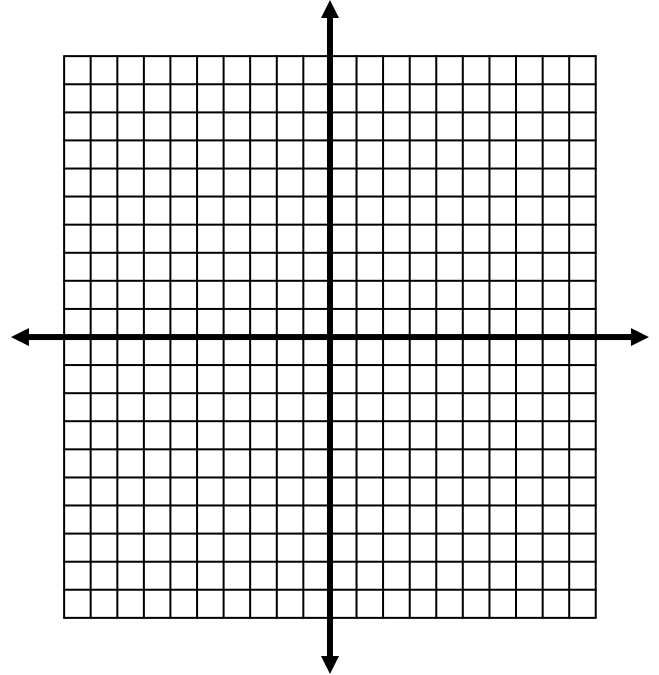
y-int \_\_\_\_\_

max/min \_\_\_\_\_

value \_\_\_\_\_

domain \_\_\_\_\_

range \_\_\_\_\_



2.  $f(x) = x^2 + 2x + 1$

vertex \_\_\_\_\_

axis \_\_\_\_\_

x-int \_\_\_\_\_

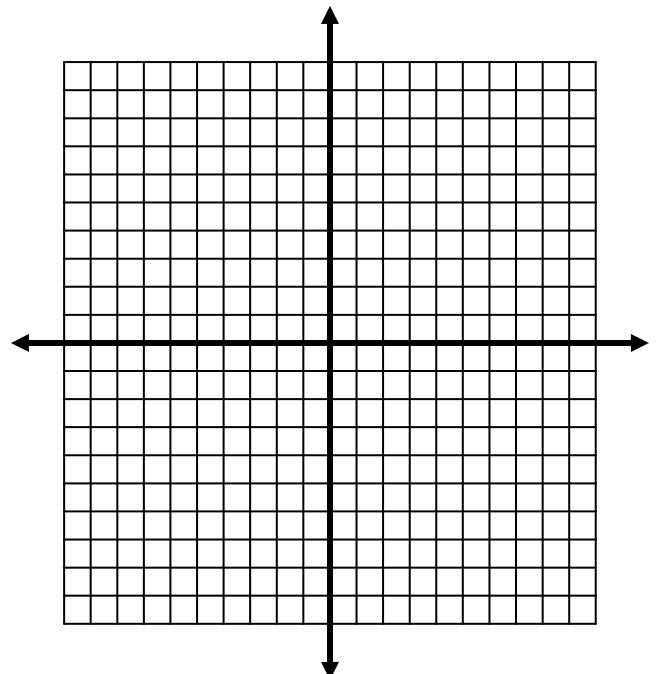
y-int \_\_\_\_\_

max/min \_\_\_\_\_

value \_\_\_\_\_

domain \_\_\_\_\_

range \_\_\_\_\_



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

vertex \_\_\_\_\_

axis \_\_\_\_\_

x-int \_\_\_\_\_

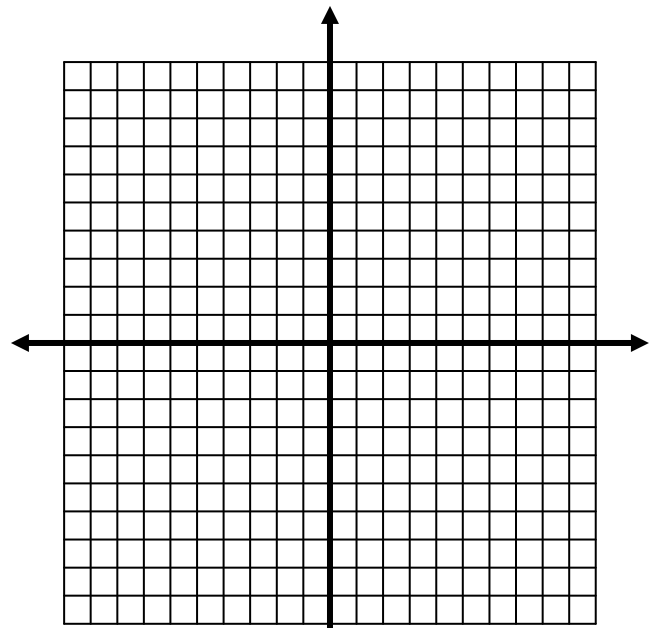
y-int \_\_\_\_\_

max/min \_\_\_\_\_

value \_\_\_\_\_

domain \_\_\_\_\_

range \_\_\_\_\_



4.  $f(x) = -x^2 - 2x - 1$

vertex \_\_\_\_\_

axis \_\_\_\_\_

x-int \_\_\_\_\_

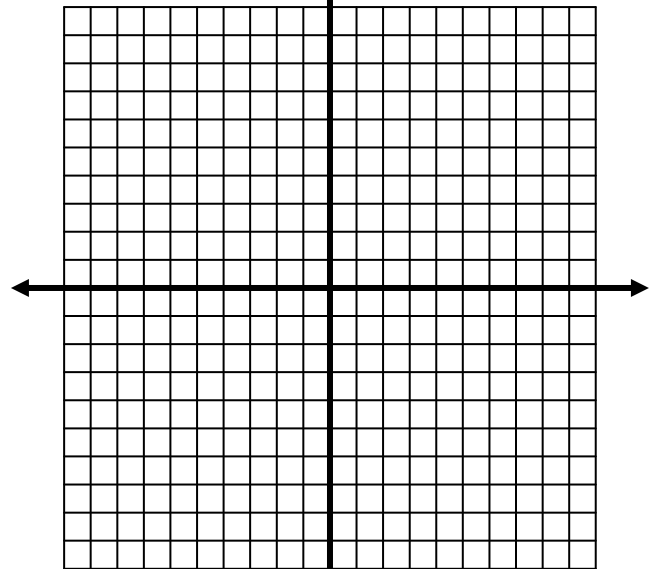
y-int \_\_\_\_\_

max/min \_\_\_\_\_

value \_\_\_\_\_

domain \_\_\_\_\_

range \_\_\_\_\_



5.  $f(x) = x^2 - 10x + 9$

vertex \_\_\_\_\_

axis \_\_\_\_\_

x-int \_\_\_\_\_

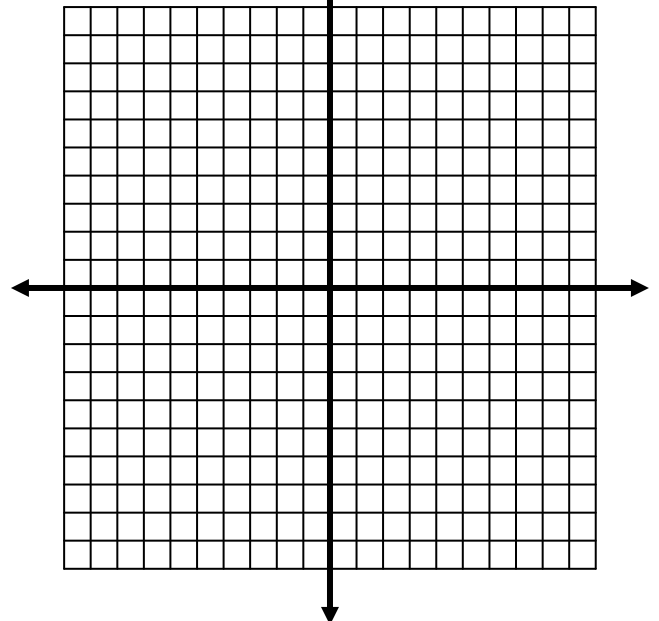
y-int \_\_\_\_\_

max/min \_\_\_\_\_

value \_\_\_\_\_

domain \_\_\_\_\_

range \_\_\_\_\_



6.  $f(x) = -6x^2 - 4x - 5$

vertex \_\_\_\_\_

axis \_\_\_\_\_

x-int \_\_\_\_\_

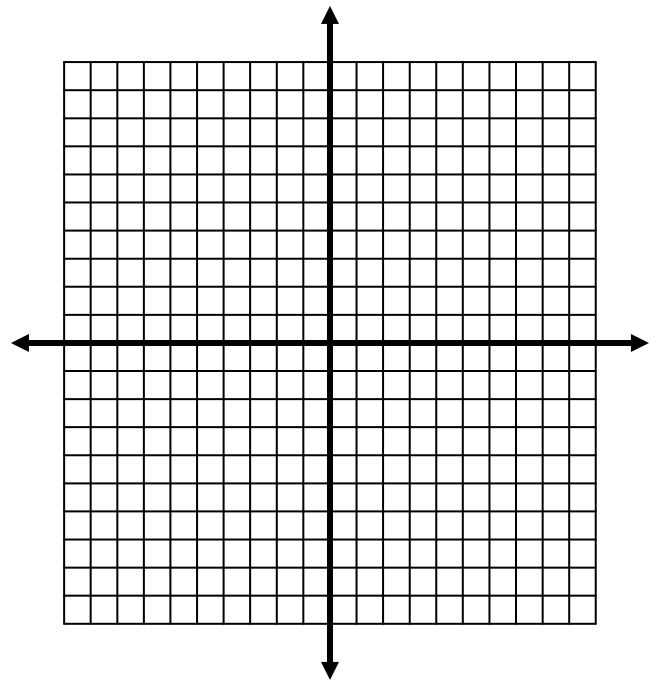
y-int \_\_\_\_\_

max/min \_\_\_\_\_

value \_\_\_\_\_

domain \_\_\_\_\_

range \_\_\_\_\_



7.  $f(x) = x^2 - 9$

vertex \_\_\_\_\_

axis \_\_\_\_\_

x-int \_\_\_\_\_

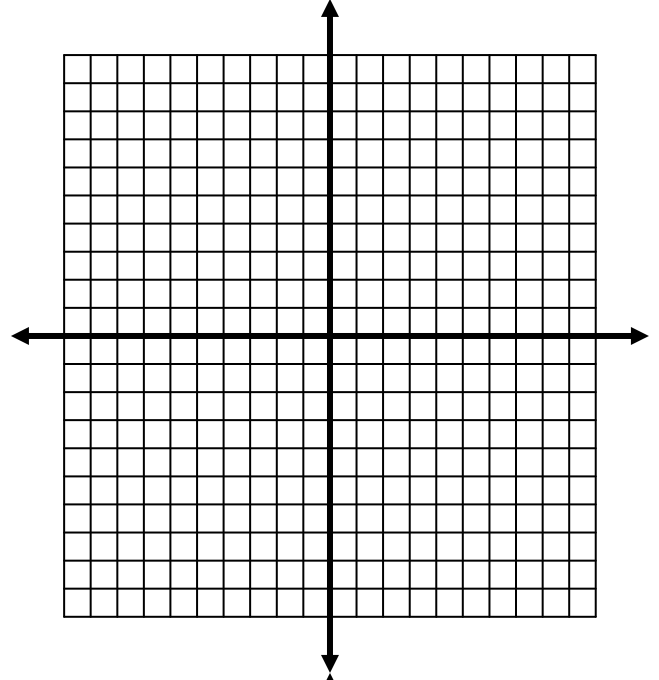
y-int \_\_\_\_\_

max/min \_\_\_\_\_

value \_\_\_\_\_

domain \_\_\_\_\_

range \_\_\_\_\_



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

vertex \_\_\_\_\_

axis \_\_\_\_\_

x-int \_\_\_\_\_

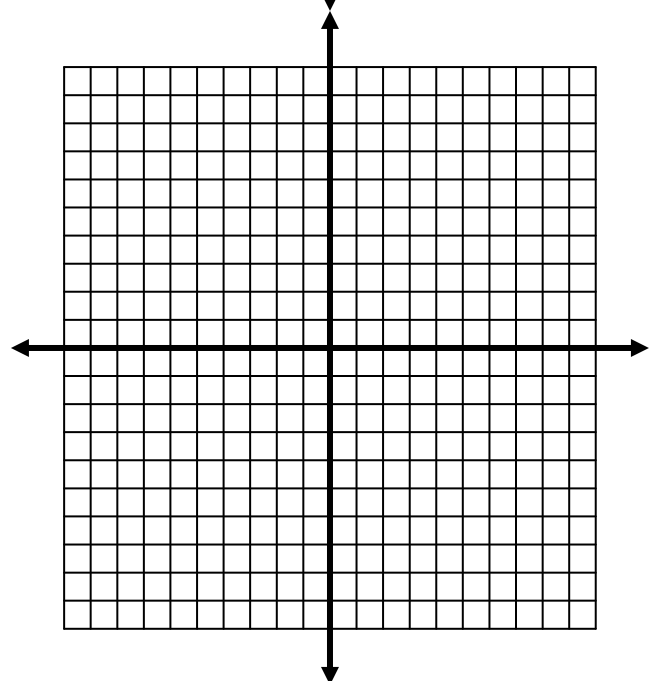
y-int \_\_\_\_\_

max/min \_\_\_\_\_

value \_\_\_\_\_

domain \_\_\_\_\_

range \_\_\_\_\_



**Write the quadratic equation in standard form**

9.  $f(x) = (x - 3)(x + 2)$

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

11.  $f(x) = -2(x + 4)^2 - 7$

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

13.  $f(x) = 5(x + 6)^2 - 1$

14.  $f(x) = (x - 1)^2$

Find two quadratic functions, one that opens upward and one that opens downward, whose graphs have the given  $x$ -intercepts. (There are many correct answers.)

15.  $(-1, 0)(3, 0)$

16.  $(-5, 0)(5, 0)$

17.  $(0, 0)(4, 0)$

18.  $(\frac{1}{2}, 0)(-3, 0)$

Write the equation of the quadratic in standard form from the graph below

19. \_\_\_\_\_

20. \_\_\_\_\_

