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.

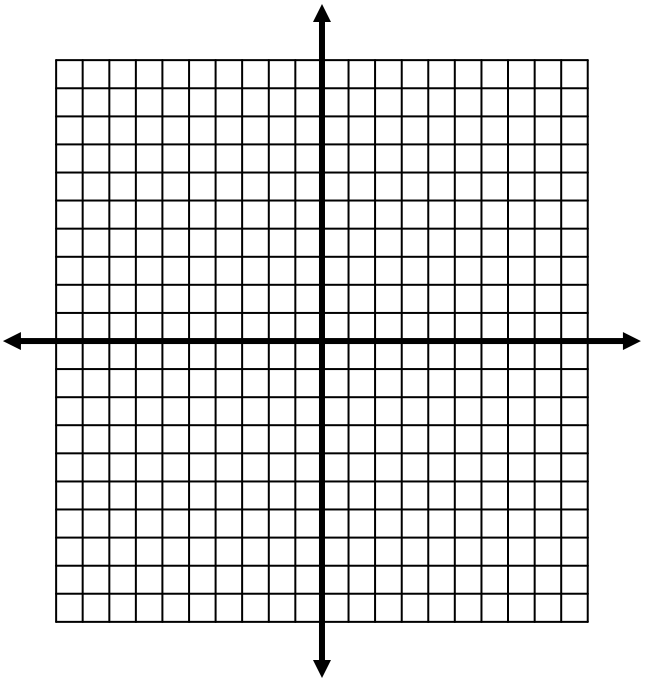
1. $f(x) = 3x^2$

vertex _____ axis _____

x-int _____ y-int _____

max/min _____ value _____

domain _____ range _____



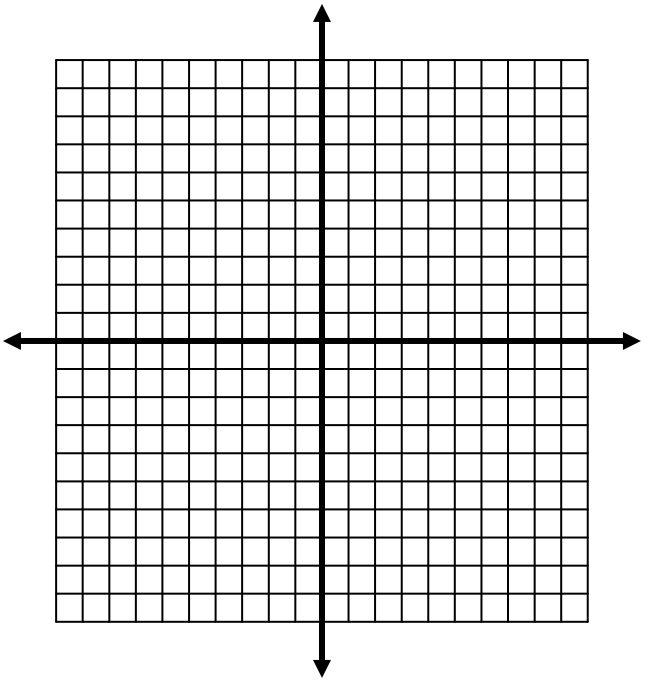
2. $f(x) = x^2 + 2x + 1$

vertex _____ axis _____

x-int _____ y-int _____

max/min _____ value _____

domain _____ range _____



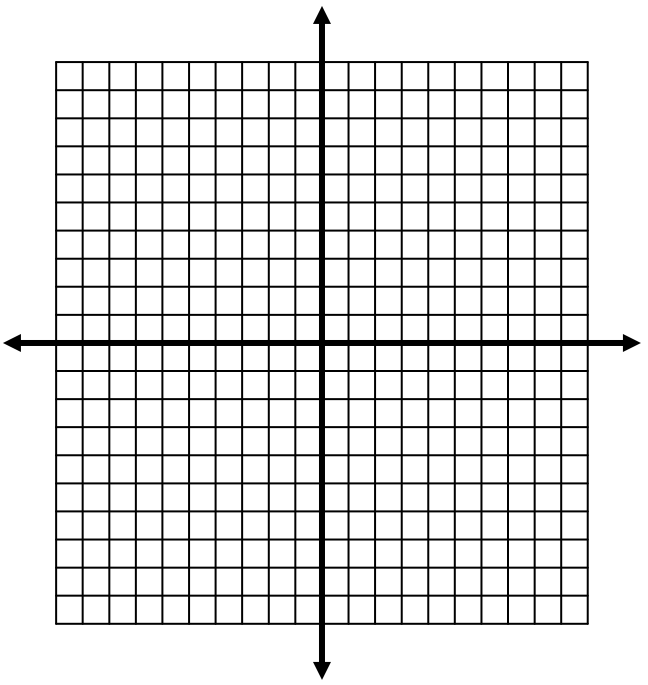
3. $f(x) = 3x^2 - 6x + 4$

vertex _____ axis _____

x-int _____ y-int _____

max/min _____ value _____

domain _____ range _____



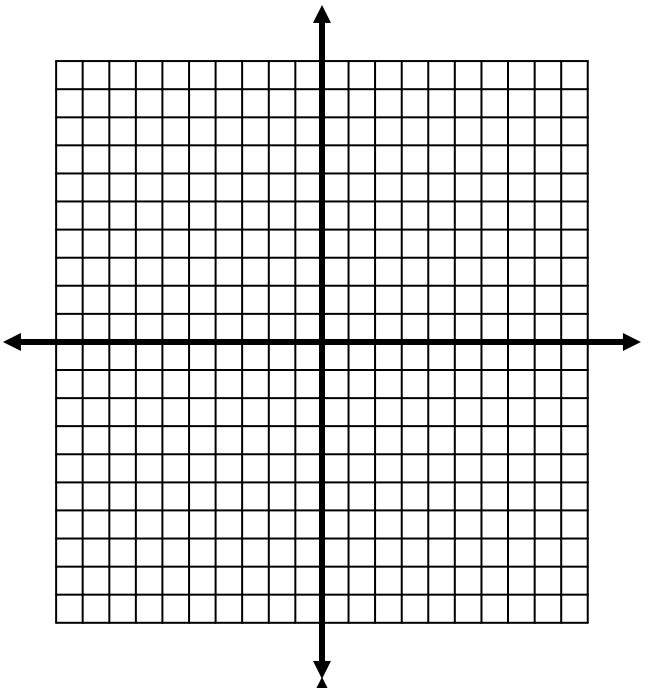
4. $f(x) = -x^2 - 2x - 1$

vertex _____ axis _____

x-int _____ y-int _____

max/min _____ value _____

domain _____ range _____



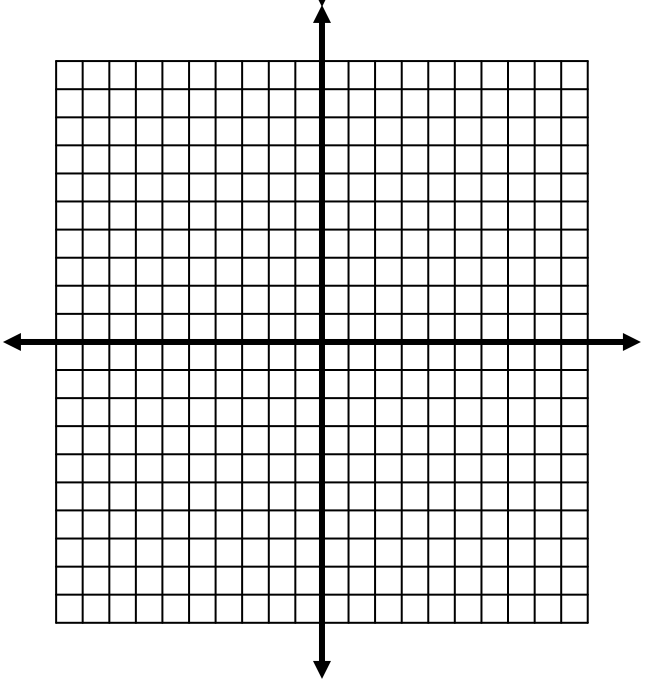
5. $f(x) = x^2 - 10x + 9$

vertex _____ axis _____

x-int _____ y-int _____

max/min _____ value _____

domain _____ range _____



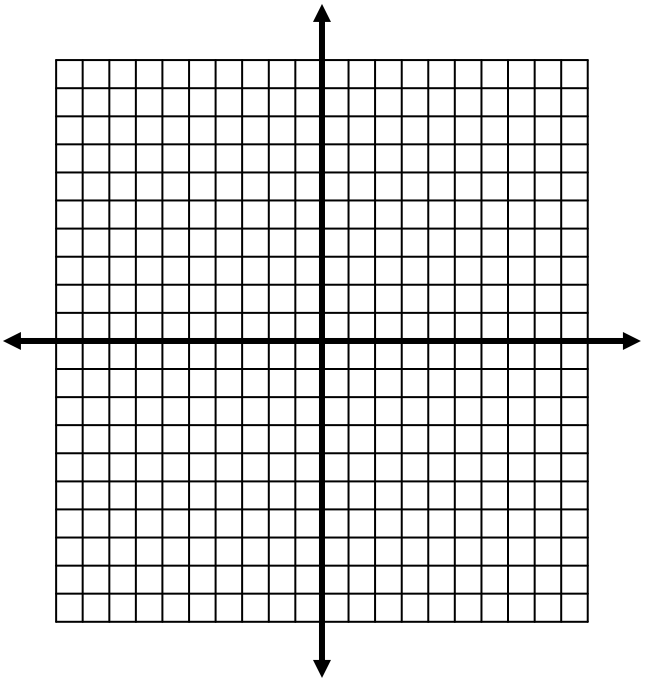
6. $f(x) = -6x^2 - 4x - 5$

vertex _____ axis _____

x-int _____ y-int _____

max/min _____ value _____

domain _____ range _____



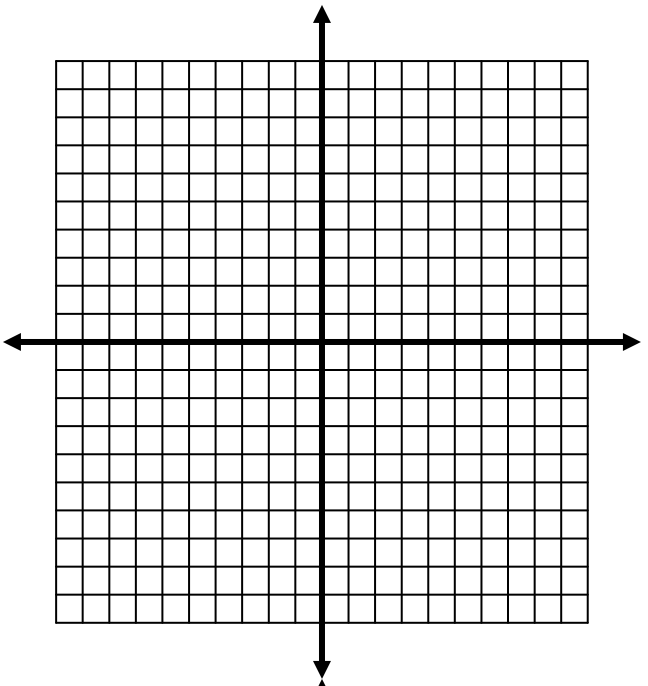
7. $f(x) = x^2 - 9$

vertex _____ axis _____

x-int _____ y-int _____

max/min _____ value _____

domain _____ range _____



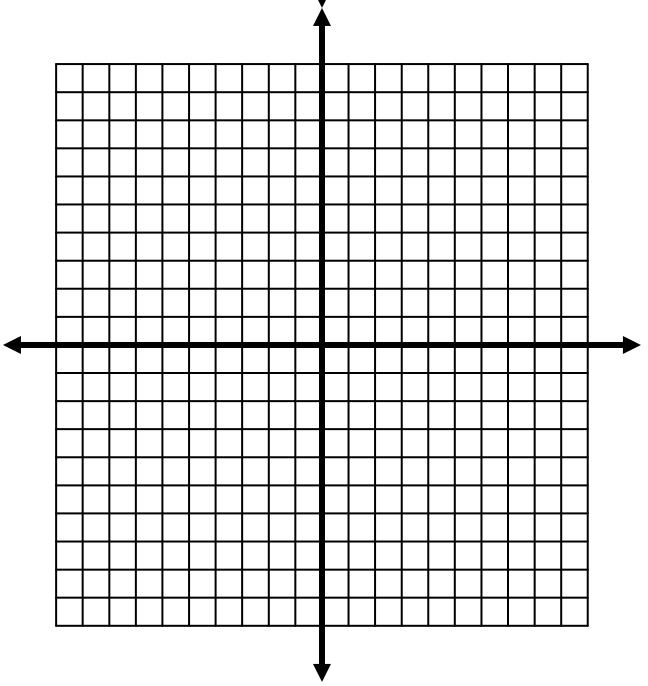
8. $f(x) = 3x^2 + 6$

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

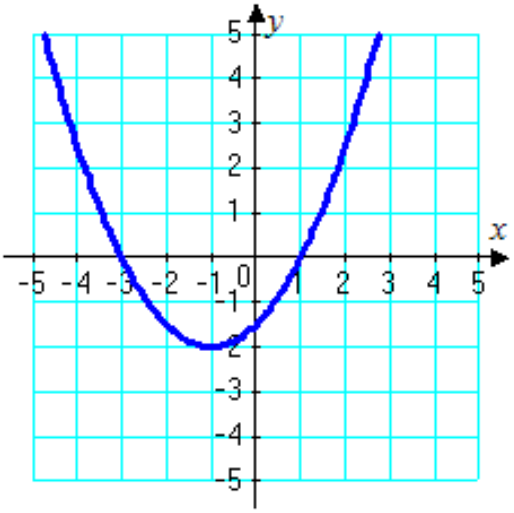
16. $(-5, 0)(5, 0)$

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

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

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

19. _____



20. _____