

1-4. Given the quadratic in **STANDARD FORM**, $y = ax^2 + bx + c$: find the y-intercept, use the formula $x = \frac{-b}{2a}$ to find the vertex and write an equation for the axis of symmetry and determine whether the quadratic opens up or down, circle whether the quadratic has a minimum or maximum value, find the min/max value. *Then graph the parabola!*

1. $y = -\frac{2}{3}x^2 + 6$

a= _____ b= _____ c= _____

Y-intercept _____

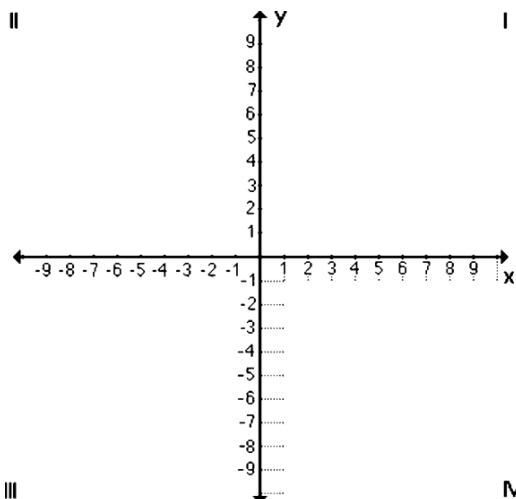
Vertex (_____, _____)

Axis of Symmetry $x =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



2. $y = x^2 + 2x - 3$

a= _____ b= _____ c= _____

Y-intercept _____

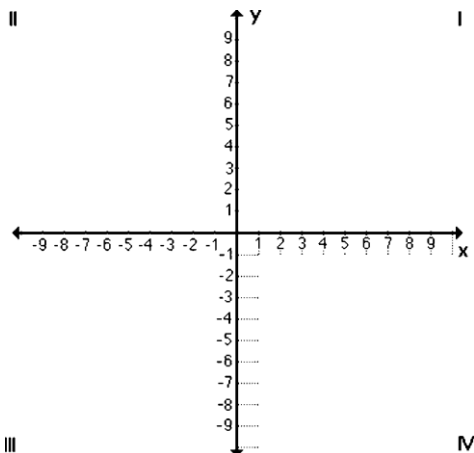
Vertex (_____, _____)

Axis of Symmetry $x =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



3. $y = x^2 - 2x - 8$

a= _____ b= _____ c= _____

Y-intercept _____

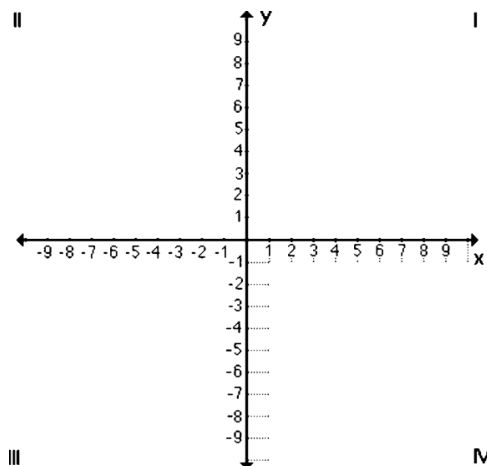
Vertex (_____, _____)

Axis of Symmetry $x =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



4. $y = 3x^2 - 12x + 5$

a= _____ b= _____ c= _____

Y-intercept _____

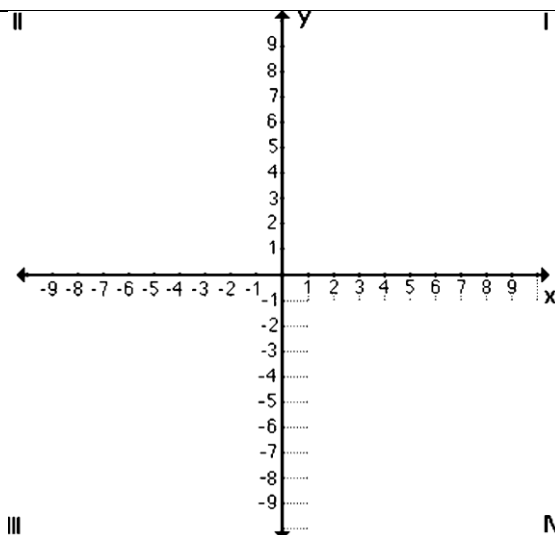
Vertex (_____, _____)

Axis of Symmetry $X =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



For #5-7, Given the quadratic equation in VERTEX FORM, $y = a(x-h)^2 + k$, find the vertex, write an equation for the axis of symmetry, determine whether the quadratic opens up or down, circle whether the quadratic has a minimum or maximum value, find min/max value. Then graph the parabola!

5. $y = -(x-3)^2 + 7$

Vertex (_____, _____)

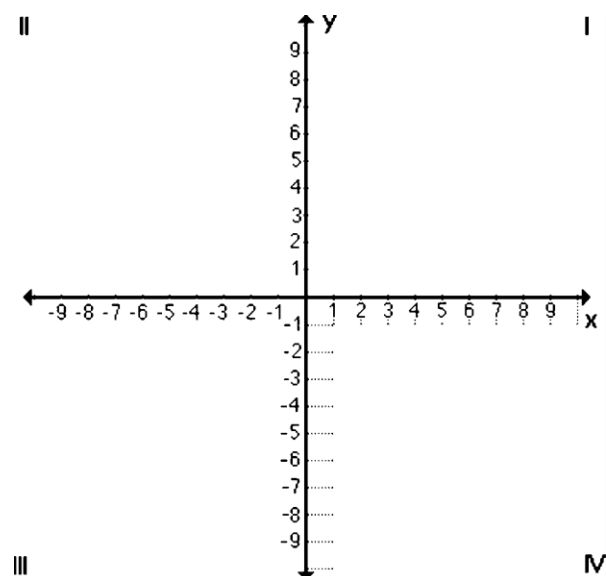
Axis of Symmetry $X =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____

y-intercept _____ (show work!)



6. $y = -2(x+3)^2 + 9$

Vertex (_____, _____)

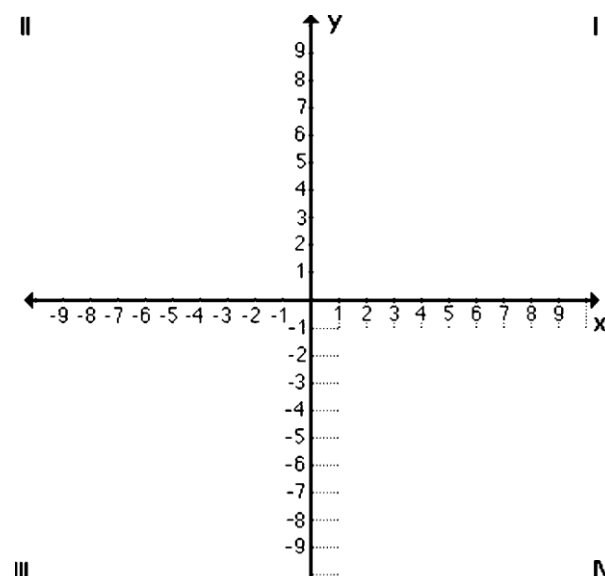
Axis of Symmetry $X =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____

y-intercept _____ (show work!)



7. $y = (x - 2)^2 - 3$

Vertex (_____, _____)

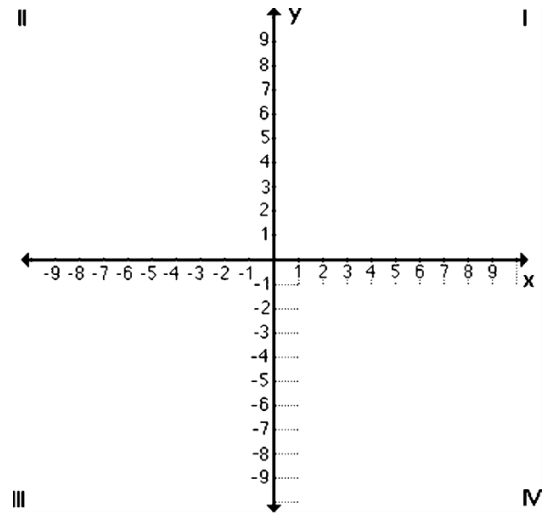
Axis of Symmetry $x =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____

y-intercept _____ (show work!)



For #8-10, write the function in standard form.

8. $y = (3x - 1)(3x - 5)$

9. $y = -3(x - 4)(x + 1)$

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

8. _____

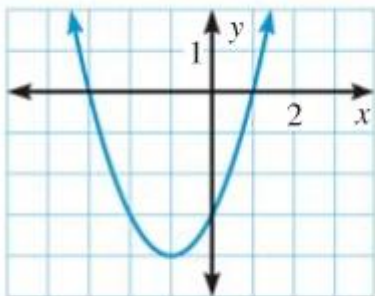
9. _____

10. _____

11. If the **Vertex** of a parabola is located at the **point (-5, 3)** and the parabola **opens down**, then find a possible equation in **Vertex form**... $y = a(x - h)^2 + k$

11. _____

12. Find the equations of the given graph in **standard form**... $y = ax^2 + bx + c$
hint: Put it in vertex form first!



12 _____