

Given the quadratic in **STANDARD FORM**, $y = ax^2 + bx + c$: find the y-intercept, use the formula $x = -\frac{b}{2a}$ to write an equation for the axis of symmetry and find the vertex, 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. $y = -2x^2 + 1$

a=_____ b=_____ c=_____

Y-intercept _____

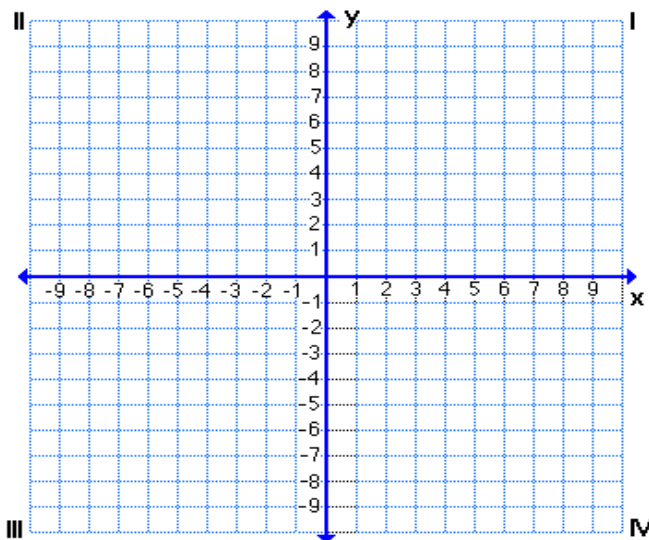
Vertex (_____, _____)

Equation for Axis of Symmetry: $X =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



2. $y = x^2 + 2x + 1$

a=_____ b=_____ c=_____

Y-intercept _____

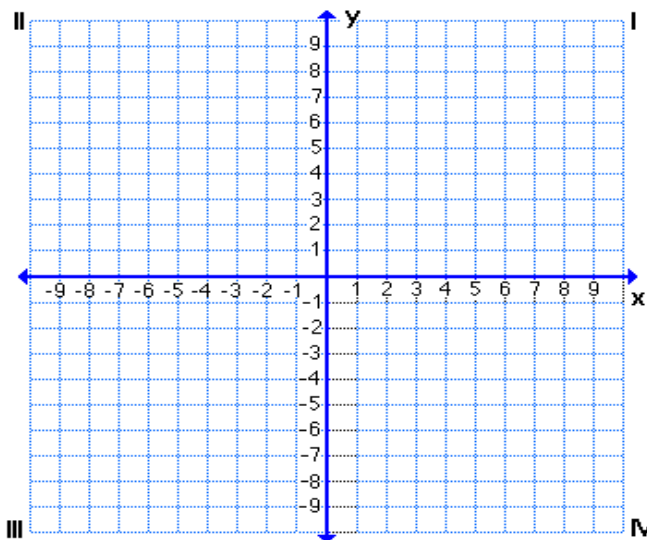
Vertex (_____, _____)

Equation for Axis of Symmetry: $X =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



3. $y = -\frac{1}{4}x^2 - 1$

a=_____ b=_____ c=_____

Y-intercept _____

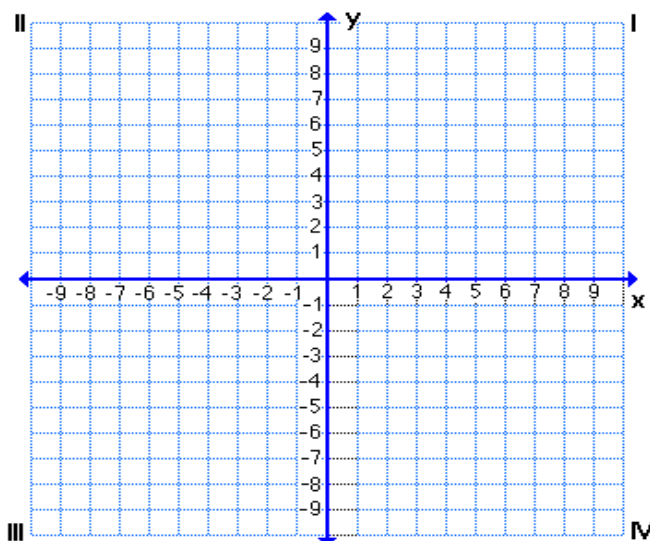
Vertex (_____, _____)

Equation for Axis of Symmetry: X = _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



4. $y = -\frac{1}{2}x^2 - 4x - 1$

a=_____ b=_____ c=_____

Y-intercept _____

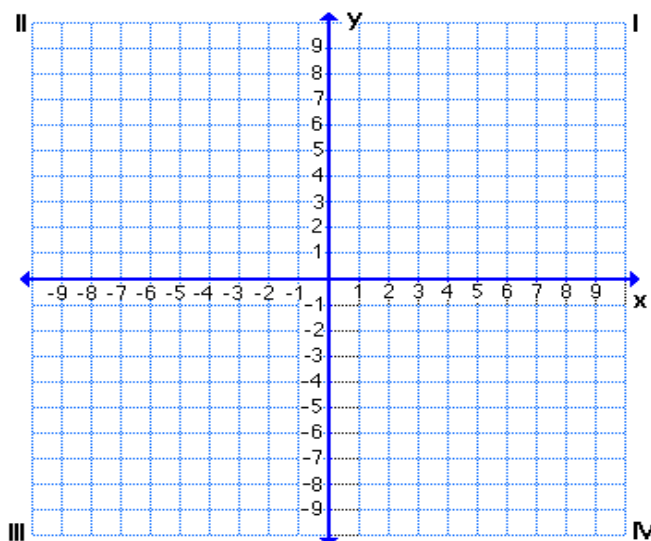
Vertex (_____, _____)

Equation for Axis of Symmetry: X = _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



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

a=_____ b=_____ c=_____

Y-intercept _____

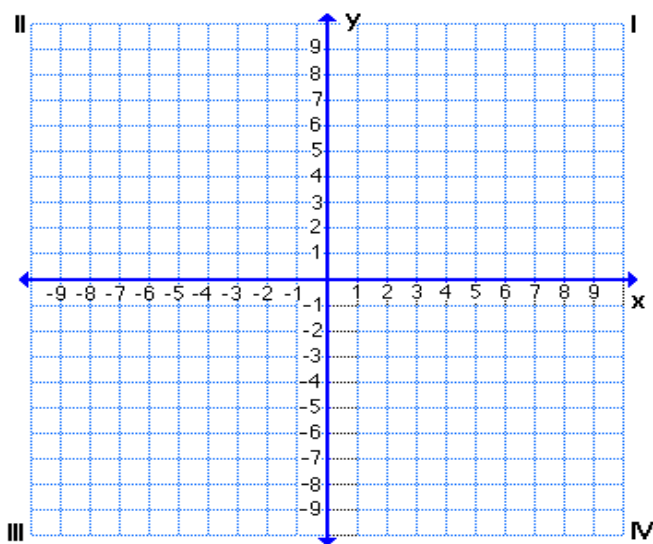
Vertex (_____, _____)

Equation for Axis of Symmetry: $X =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



6. $y = -x^2 - 8x - 13$

a=_____ b=_____ c=_____

Y-intercept _____

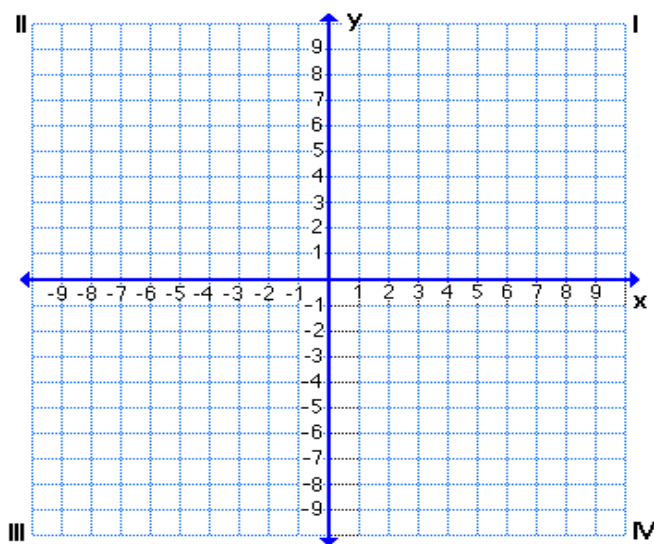
Vertex (_____, _____)

Equation for Axis of Symmetry: $X =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



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

a=_____ b=_____ c=_____

Y-intercept _____

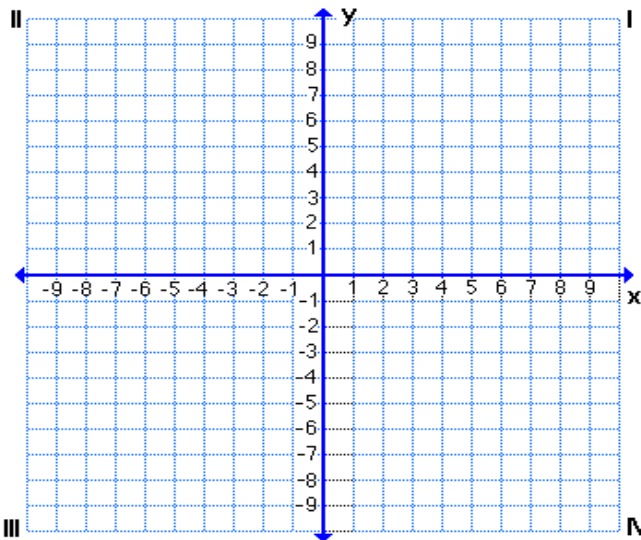
Vertex (_____, _____)

Equation for Axis of Symmetry: $X =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



8. $y = 2x^2 - 12x + 14$

a=_____ b=_____ c=_____

Y-intercept _____

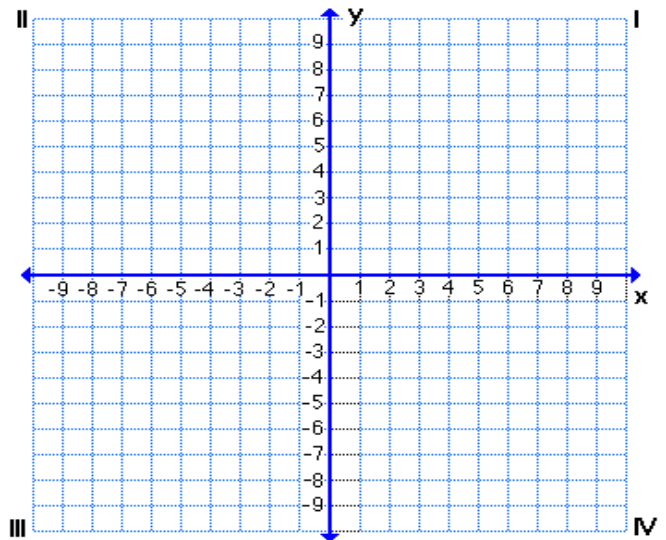
Vertex (_____, _____)

Equation for Axis of Symmetry: $X =$ _____

Opens Up or Opens Down

Maximum or Minimum

Max/Min Value _____



Write the function in standard form by finding the product.

9. $y = 2(x - 5)(x + 2)$

10. $y = (2x + 1)(x - 4)$

11. $y = 2(x - 4)^2 - 1$

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