

Graphing Quadratics Review (#18)

Fill in the blanks to make each trinomial a perfect square, then factor.

1. $x^2 + 8x + \underline{\hspace{2cm}} =$

2. $x^2 - 4x + \underline{\hspace{2cm}} =$

3. $x^2 + 12x + \underline{\hspace{2cm}} =$

4. $x^2 - 3x + \underline{\hspace{2cm}} =$

5. $x^2 + 2x + \underline{\hspace{2cm}} =$

6. $x^2 + 5x + \underline{\hspace{2cm}} =$

7. a) Which three terms in the following expression make a perfect square trinomial? Circle them.

$$y = x^2 + 6x + 2 + 9 - 9$$

b) Factor the three terms you circled so that your quadratic is in vertex form.

$$y =$$

c) What is the vertex of the parabola that the quadratic from part b makes?

Put each equation into vertex form then state the vertex.

8. $f(x) = x^2 - 10x + 12$

9. $f(x) = x^2 + 4x + 9$

List any horizontal shifts (for example, "left 1"), vertical shifts, reflections (just write "yes" or "no"), and stretches that you see in each quadratic. Some of your answers will be "none."

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

11. $f(x) = -3x^2 + 11$

Horizontal Shift: _____

Horizontal Shift: _____

Vertical Shift: _____

Vertical Shift: _____

Reflection: _____

Reflection: _____

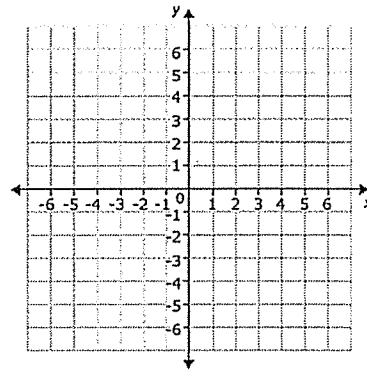
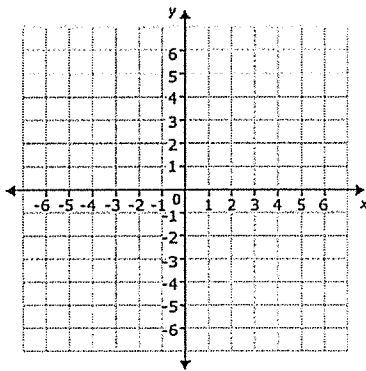
Stretch: _____

Stretch: _____

Find the line of symmetry, vertex, x-intercepts, and y-intercept for each of the quadratics below, then graph them. You must use $x = \frac{-b}{2a}$.

12. $y = 2x^2 - 4x - 6$

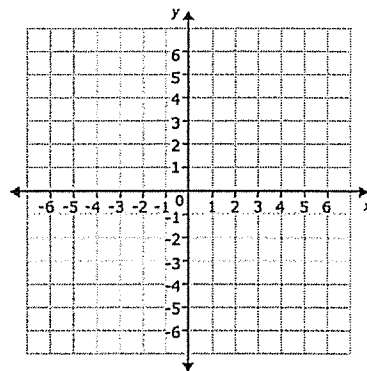
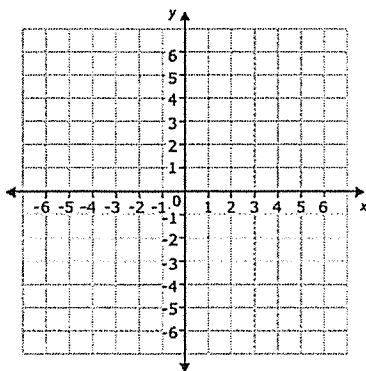
13. $y = x^2 - 4x + 3$



Graph using any method you prefer.

14. $g(x) = 2(x - 1)^2 - 5$

15. $h(x) = x^2 + 4x + 3$



Solve using any method you prefer.

16. $2x^2 - 6x - 8 = 0$

17. $x^2 - 4x - 2 = 0$