

Name: _____ Date: _____

Converting Forms of a Quadratic

Convert from vertex form to standard form.

1. $f(x) = (x+4)^2 + 5$

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

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

Convert from standard form to vertex form by using $x = -b/2a$.

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

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

6. $f(x) = 2x^2 - 8x + 17$

Convert from standard form to vertex form by using the calculator

7. $f(x) = x^2 - 8x + 15$

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

9. $f(x) = 2x^2 + 12x + 7$

10. Find the axis of symmetry and vertex for the two functions representing the trajectory of a ball.

a) $f(t) = -16t^2 + 64t + 10$

b) $g(t) = -16t^2 + 64t + 30$

Which function will be higher at its peak?

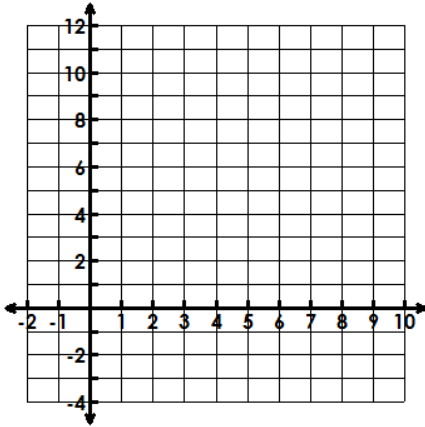
How can you determine that by looking at the equation in standard form?

Review from Unit 6:

11. $f(x) = 3(x - 4)^2 - 1$

Vertex: _____

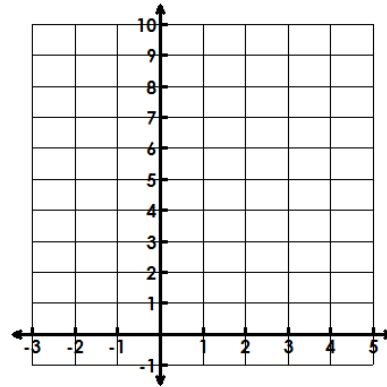
Axis of Symmetry: $x =$ _____



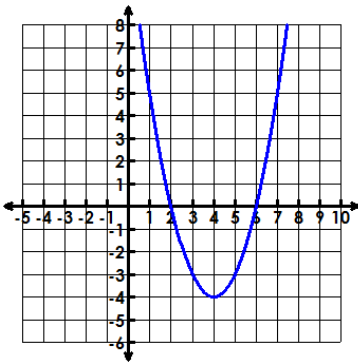
12. $f(x) = -\frac{1}{2}(x - 2)^2 + 10$

Vertex: _____

Axis of Symmetry: $x =$ _____



13. $f(x) =$ _____



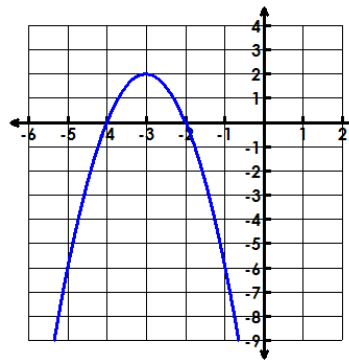
Domain _____

Increasing _____

Extrema _____

RoC [2,4] _____

14. $f(x) =$ _____



Range _____

Decreasing _____

AOS _____

$x \rightarrow$ _____ $f(x) \rightarrow$ _____

$x \rightarrow$ _____ $f(x) \rightarrow$ _____

Determine what transformations are applied in the following functions.

15. $f(x) = \frac{1}{3}(x + 3)^2 - 2$

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

What a function in vertex form with the given transformations.

17. Vertical Stretch 3, Left 3, Up 5 _____

18. Reflect across the x axis, Right 7 _____