

Review - Matching Vertex Form Equations with Transformations (2Q3)

Recall:

$ a < 1 \rightarrow$ wider	$h < 0 \rightarrow$ left	$k < 0 \rightarrow$ down
$ a > 1 \rightarrow$ narrower	$h > 0 \rightarrow$ right	$k > 0 \rightarrow$ up
$a < 0 \rightarrow$ ROX		
$a > 0 \rightarrow$ face up	$y = a(x - h)^2 + k$	vertex: (h, k)

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

2. $y = x^2 - 4$

3. $y = x^2 + 4$

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

5. $y = -x^2$

6. $y = (-x)^2$

7. $y = 4x^2$

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

9. $y = -x^2 - 4$

10. $y = (x + 4)^2 + 3$

11. $y = -(x - 3)^2 + 4$

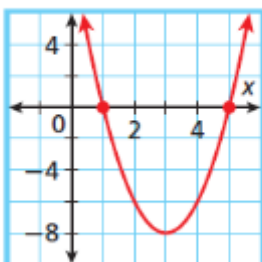
12. $y = (-x + 4)^2$

- A. Reflect in the x -axis.
- B. Shift left 4 units, then reflect in the y -axis.
- C. Reflect in the x -axis, then shift downward 4 units.
- D. Shift right 4 units.
- E. Shift right 3 units, then reflect in the x -axis, then shift upward 4 units.
- F. Shift upward 4 units.
- G. Reflect in the y -axis.
- H. Shift left 4 units, then shift upward 3 units.
- I. Shift left 4 units.
- J. Shift downward 4 units.
- K. Stretch vertically by a factor of 4.
- L. Shrink vertically by a factor of $\frac{1}{4}$.

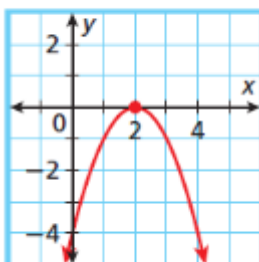
Review - Finding the Axis of Symmetry - Graph (all 2Q)

The axis of symmetry is the vertical line ($x =$) through the vertex that splits the parabola evenly.

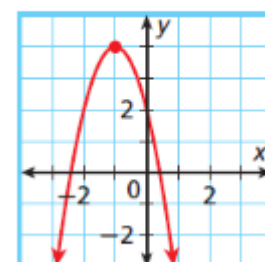
A.



B.



C.



Review - AOS and y-intercept from Standard Form (2Q5)

<u>Recall:</u>	Standard Form: $y = ax^2 + bx + c$
vertex: (h, k)	Find y-intercept by substituting $x = 0$.
AOS: $x = h$	→ y-int = c
$h = \frac{-b}{2a}$	
Find k by substituting $x = h$.	

**Find the y-intercept.
Write as ordered pair.**

- A. $f(x) = 2x^2 + 5x - 1$
- B. $f(x) = 9x^2 - 3x + 5$
- C. $f(x) = -3x^2 + 2x$

Find the equation of the AOS. If h is a fraction, reduce the fraction if necessary.

- A. $y = x^2 + 3x + 4$
- B. $y = -3x^2 + 10x + 9$
- C. $y = 2x^2 + 4x + 5$

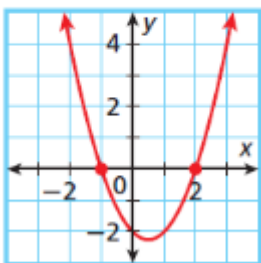
Find the vertex, (h, k) .

- A. $y = 5x^2 - 10x + 3$
- B. $y = -x^2 - 2x$

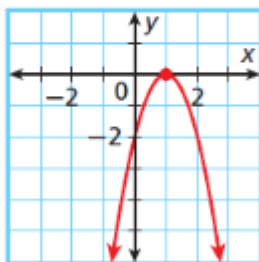
Review - Finding Zeros/Roots/x-intercepts (2Q7)

Find the zeros of each quadratic function from its graph.

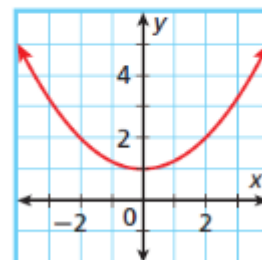
A. $y = x^2 - x - 2$



B. $y = -2x^2 + 4x - 2$



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



Solve for the roots by factoring. Write as coordinate points (x-intercepts) and a solution set {}.

A. $y = x^2 + 5x + 6$

B. $x^2 - 8x + 12 = 0$

C. $x^2 - 2x - 15 = 0$