Day 2 – Quadratic Transformations (all)
Practice Assignment

Name: _____
Date: _____ **Block:** _____

Describe the transformations of the parent graph for each equation. Then name vertex.

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

Vertex: _____

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

Vertex: _____

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

Vertex: _____

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

Vertex: _____

5. $f(x) = \frac{2}{3}(x-8)^2$

Vertex: _____

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

Vertex: _____

Write the quadratic equation in vertex form that has been…

_____ 7. shifted to the right 4 and up 3

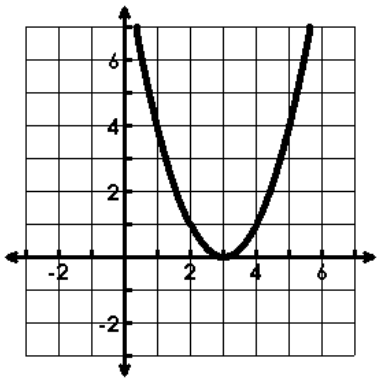
_____ 8. reflected over the x-axis and shifted left 11

_____ 9. moved down 4 and shrunk by ¼

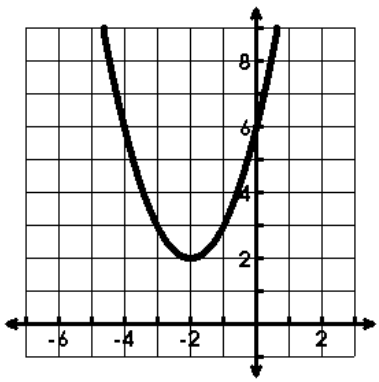
10. reflected over the x-axis, shifted left 9 and down 8.

Describe the transformations and write an equation for each quadratic function. Assume all functions have no stretches or shrinks.

11.



12.



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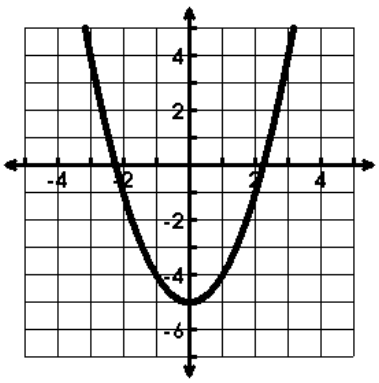


14. Describe and correct the errors in analyzing the equation of $f(x) = -6(x - 1)^2 + 4$.

✗ The graph is shifted up four units and shifted left one unit, followed by a stretch by a factor of 6, followed by a reflection over the x-axis. The vertex is (1, 4).	✗ The graph is shifted up 1 unit and shifted right 4 units, followed by a stretch by a factor of 6, followed by a reflection over the x-axis of the graph of the parent quadratic function. The vertex is (-1, 4).

15-20. Match each function to its graph.

15. $g(x) = 2(x - 1)^2 - 2$

16. $g(x) = \frac{1}{2}(x + 1)^2 - 2$

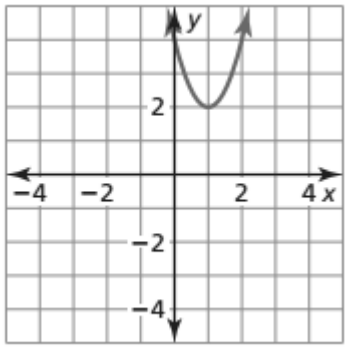
17. $g(x) = -2(x - 1)^2 + 2$

18. $g(x) = 2(x + 1)^2 + 2$

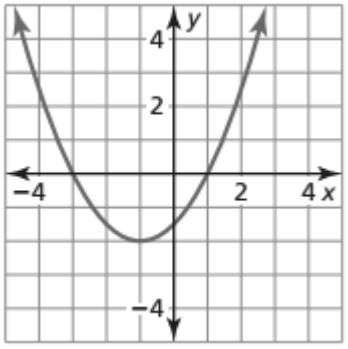
19. $g(x) = -2(x + 1)^2 - 2$

20. $g(x) = 2(x - 1)^2 + 2$

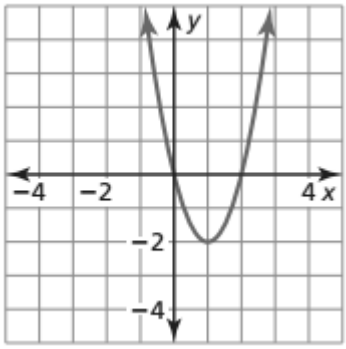
A.



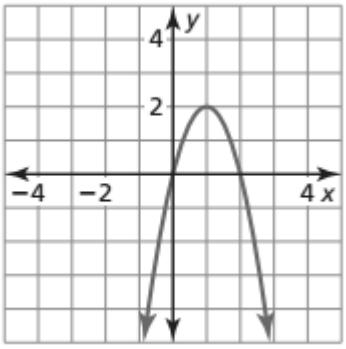
B.



C.



D.



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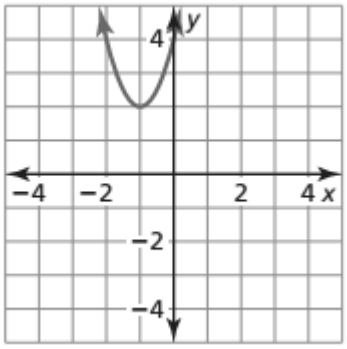
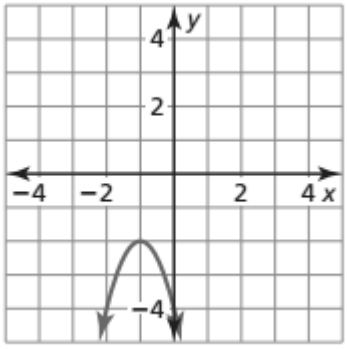


F.



Directions: Describe each transformation and name the vertex.

Graph	Vertex	Describe the transformation(s)
$y = x^2 + 4$		
$y = x^2 - 1$		
$y = 2x^2$		
$y = -x^2 + 6$		
$y = \frac{1}{4}(x - 3)^2$		
$y = -3(x + 2)^2$		
$y = (x - 1)^2 + 3$		
$y = 2(x + 6)^2$		
$y = (x - 3)^2 - 5$		
$y = -\frac{1}{2}(x + 4)^2 + 5$		