

Unit #3 Discovering Translations of Quadratic Functions

Homework Assignment

Name _____

Date _____ Hour _____

For each function below, **(A)** identify the parent function, then **(B)** Describe in words the transformations made to the parent function.

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

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

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

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

5. $f(x) = -6x^2$

6. $f(x) = \frac{1}{4}x^2 - 3$

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

8. $f(x) = 3x^2 + 1$

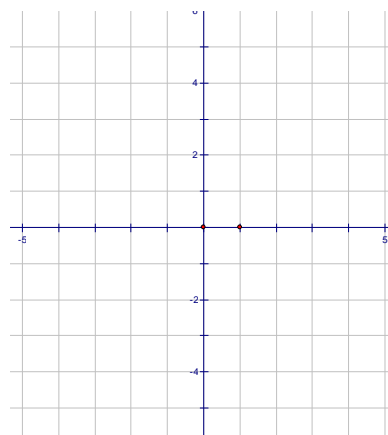
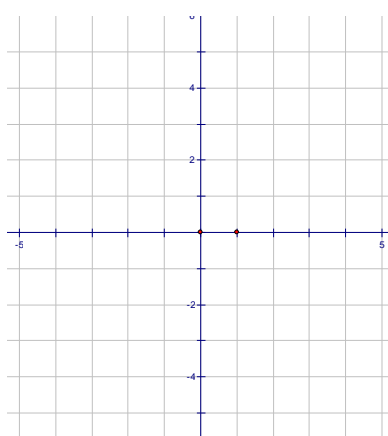
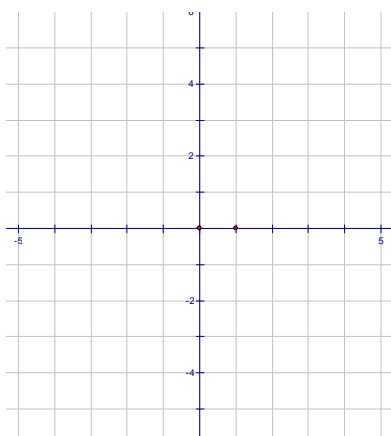
9. $f(x) = -(x + 3)^2 - 5$

Sketch a graph of the function with the indicated transformations. (No Calculator)

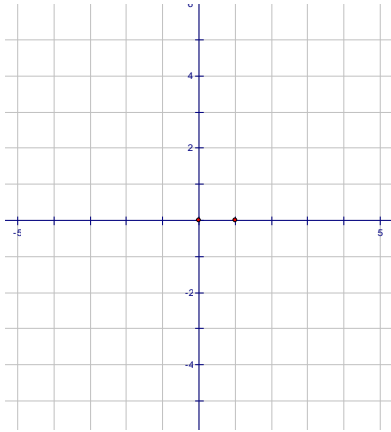
10. $f(x) = 3(-x - 5)^2 + 1$

11. $f(x) = \frac{1}{2}(x - 4)^2 + 3$

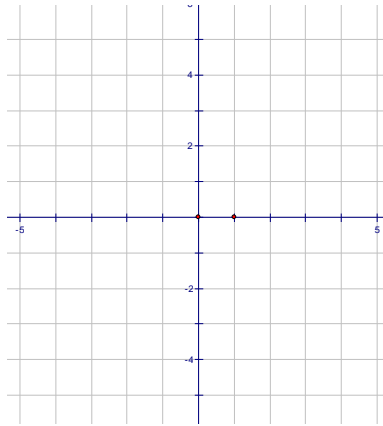
12. $f(x) = -\frac{1}{3}(-x + 2)^2 - 2$



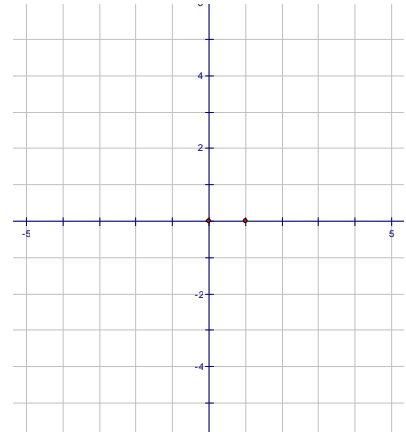
13. $f(x) = 2(-x+1)^2 - 2$



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



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



Write the function for $f(x) = x^2$ with the indicated transformations.

16. Vertical stretch by a factor of 3, horizontal shift left 5

17. Moved 4 units right and 5 units down.

18. moved 6 units left and 2 units up.

Use the graphs below to identify each function. Write the function that corresponds to each graph.

19. _____

20. _____

