Name: _____   Date: _____

Function Translations Review – Teacher Notes

When working in the activity center, send students the parent function in y1 and a blank equation in y2. Have students type in the transformed functions in y2. All odd problems are activity center work. All even numbered problems are quick polls. Make sure the type of quick poll sent matches the type of question.

1. Submit an equation that will move the graph of the function $y=x^2$ right 4 units.

2. The equation $y = (x+3)^2 - 2$ moves the parent function $y = x^2$ right 3 units and down 2 units.

   True or False

3. Submit an equation that will move the graph of the function $y = x^2$ down 7 units.

4. The equation $y = (x-8)^2 + 5$ moves the parent function $y = x^2$ right 8 units and down 5 units.

   True or False

5. Submit an equation that will move the graph of the function $y=x^2$ left 2 units and up 6 units.

6. Which equation will shift the graph of $y = x^2$ left 5 units and up 6 units?

   a. $y = (x+6)^2-5$

   b. $y = (x+5)^2-6$

   c. $y = (x+5)^2+6$

   d. $y = (x-5)^2+6$

7. Submit an equation that will move the graph of the function $y=x^2$ right 3 units up 2 units.

8. Which equation will shift the graph of $y = x^2$ right 8 units and down 4 units?

   a. $y = (x+8)^2-4$

   b. $y = (x+4)^2-8$

   c. $y = (x-4)^2+8$

   d. $y = (x-8)^2-4$

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9. Submit an equation that will move the graph of the function $y=x^2$ left 7 units and down 3 units.

10. Which equation will shift the graph of $y = x^2$ up 9 units?

   a. $y = (x+9)^2$

   b. $y = x^2-9$

   c. $y = x^2+9$

   d. $y = (x-9)^2$

11. Submit an equation that will move the graph of the function $y=\log(x)$ right 4 units and up 6 units.

12. The equation $y = \log(x-3) + 9$ moves the parent function $y = \log(x)$ right 3 units and up 9 units.

   True or False

13. Submit an equation that will move the vertex of the function $y=x^2$ to the point   (-3,1).

14. The equation $y = (x+3)^2 - 2$ moves the vertex of the parent function $y = x^2$ to:

   a. (3,2)

   b. (-3, -2)

   c. (-2, 3)

   d. (2, -3)

15. Submit an equation that will move the graph of the function $y=\text{abs}(x)$ left 2 units and up 5 units.

16. The equation $y = \text{abs}(x - 4) - 5$ moves the parent function $y = \text{abs}(x)$ right 5 units and down 4 units.

   True or False

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1. How does the graph of $y = x^2$ differ from the graph of $y = x^2 - 4$?

   A The graph of $y = x^2 - 4$ is wider than the graph of $y = x^2$.

   B The graph of $y = x^2 - 4$ is shifted to the left of the graph of $y = x^2$.

   C The graph of $y = x^2 - 4$ is shifted down from the graph of $y = x^2$.

   D The graph of $y = x^2 - 4$ is narrower than the graph of $y = x^2$.

   Answer: C

2. How would the graph of the function $y = x^2 + 4$ be affected if the function were changed to $y = x^2 + 1$?

   F The graph would shift 3 units up.

   G The graph would shift 3 units down.

   H The graph would shift 3 units to the right.

   J The graph would shift 3 units to the left.

   Answer: G

3. What is the effect on the graph of the equation $y = -4x^2$ when the equation is changed to $y = 4x^2$?

   A The graph of $y = 4x^2$ is translated 8 units down.

   B The graph of $y = 4x^2$ is a reflection of $y = -4x^2$ across the x-axis.

   C The graph of $y = 4x^2$ is translated 8 units up.

   D The graph of $y = 4x^2$ is a reflection of $y = -4x^2$ across the y-axis.

   Answer: B