

## Transformations – Day 2

### Unit 3: Comparing Functions - Modeling & Transformations

**Rewrite the given equation applying the given transformation:**

Linear Transformations:

1. $y = 2x$ reflected across the x-axis and down 3 units.	2. $y = -2x$ translated 5 units up.
3. $y = \frac{3}{2}x$ translated down 9 units.	4. $y = 3x$ translated 3 units up and reflected across the x-axis.
5. $y = -8x$ reflected across the x-axis and down 3 units.	6. $y = \frac{7}{8}x$ translated up 8 units.

Exponential Transformations:

7. $y = 25(2)^x$ translated 5 units up.	8. $y = 2(3)^x$ translated 8 units down.
9. $y = \frac{3}{5}\left(\frac{1}{3}\right)^x$ translated 4 units left and 2 units down.	10. $y = -5(8)^x$ translated 5 units left and 3 units up.
11. $y = -9\left(\frac{11}{2}\right)^x$ translated 9 units right and 8 units down.	12. $y = -3\left(\frac{2}{3}\right)^x$ translated 1 unit left and up 5 units.

Quadratic Transformations

13. $y = 6x^2$ translated 2 units right.	14. $y = -5x^2$ translated 4 units left.
15. $y = \frac{1}{3}x^2$ translated 8 units down.	16. $y = -\frac{2}{3}x^2$ translated 5 units up.
17. $y = -9x^2$ translated 3 units right and 4 units down.	18. $y = 7x^2$ translated 9 units left and 10 units up.