

Algebra 2 | Unit 3.3 Worksheet – Transformations of Functions

Name: _____ Hour: _____

Identify the following functions as one of the types listed below, then state the transformations from their parent function.

Parent Functions:

Linear | $y = x$

Quadratic | $y = x^2$

Cubic | $y = x^3$

Square Root | $y = \sqrt{x}$

Cube Root | $y = \sqrt[3]{x}$

Logarithm | $y = \log_b x$

Exponential | $y = b^x$

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

Parent Function Type: _____ Transformations: _____

2. $y = 2\sqrt{x - 5} + 1$

Parent Function Type: _____ Transformations: _____

3. $y = 4 \log_7(x) - 1$

Parent Function Type: _____ Transformations: _____

4. $y = 3(2)^{x-1} + 4$

Parent Function Type: _____ Transformations: _____

5. $y = -\frac{1}{5}x - 3$

Parent Function Type: _____ Transformations: _____

6. $y = -\frac{1}{3}(x + 2)^3 - 7$

Parent Function Type: _____ Transformations: _____

7. $y = \sqrt[3]{x - 5}$

Parent Function Type: _____ Transformations: _____

8. $y = -\frac{1}{2}\sqrt{x} + 2$

Parent Function Type: _____ Transformations: _____

9. $y = \frac{1}{2}x^3 + 4$

Parent Function Type: _____ Transformations: _____

10. $y = -5 \log_3(x - 1) + 6$

Parent Function Type: _____ Transformations: _____

11. $y = -5^{x+2} - 3$

Parent Function Type: _____ Transformations: _____

12. $y = 5(x - 4)^3 - 7$

Parent Function Type: _____ Transformations: _____

13. $y = -\sqrt[3]{x + 1} + 5$

Parent Function Type: _____ Transformations: _____

14. $y = -\frac{1}{2} \log_7(x + 3) - 4$

Parent Function Type: _____ Transformations: _____

15. $y = 5x$

Parent Function Type: _____ Transformations: _____

16. $y = 9(x - 7)^2 + 14$

Parent Function Type: _____ Transformations: _____

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

Parent Function Type: _____ Transformations: _____

18. $y = -\frac{1}{2}(3)^x - 9$

Parent Function Type: _____ Transformations: _____

19. $y = \frac{1}{3}\sqrt{x + 3} + 4$

Parent Function Type: _____ Transformations: _____

20. $y = -4(x - 8)^2 + 1$

Parent Function Type: _____ Transformations: _____