Quiz Exponential and Logarithmic Functions

1. Growth or Decay: $f(x) = \left(\frac{5}{2}\right)^{x-4} + 1$

2. Growth or Decay: $f(x) = 0.5^{x+3} - 7$

3. Identify the domain and range of the function in #1:

4. Identify the domain and range of the function in #2:

5. Identify the transformations of the function in #1 from $f(x) = \left(\frac{5}{2}\right)^x$:

6. Identify the transformations of the function in #2 from: $f(x) = 0.5^x$:

7. Convert to logarithmic form: $7^{-3} = \frac{1}{343}$

8. Convert to exponential form: $\log_3 81 = 4$

9. Evaluate: $\log_2 64$

10. Evaluate: $\log_{196} 14$

11. Evaluate: $\log_6 \frac{1}{216}$

12. Solve: $\log_4(7x + 1) = 3$

13. Solve: $\log_5(2x - 13) = 4$

14. Use properties of logs to solve: $\log_3 7x + \log_3 2 = \log_3 56$

15. Use properties of logs to solve: $3\log_2 x - \log_2 3 = \log_2 243$

16. Use properties of logs to solve: $\log_2 x + \log_2(x - 7) = \log_2 60$

17. Use properties of logs to solve: $\log_5 48 - \log_5 x = \log_5 12$

18. $\log_4 (x^2 - 4) - \log_4 (x + 2) = \log_4 1$

19. $\log_8 (n - 3) + \log_8 (n + 4) = 1$

20. $\log_{16} (9x + 5) - \log_{16} (x^2 - 1) = \dfrac{1}{2}$

HONORS MATH 3 ONLY Pick FIVE TO SOLVE:

9. $5^a = 120$ **10.** $6^z = 45.6$

12. $3.5^x = 47.9$ **13.** $8.2^y = 64.5$

15. $4^{2x} = 27$ **16.** $2^{a - 4} = 82.1$

18. $5^{w + 3} = 17$ **19.** $30^{x^2} = 50$