

16.4 Exponential and Logarithmic Equations

Name _____

- Exponential Equations

- If $B^M = B^N$, then $M = N$

- Logarithmic Equations

- If $\log_b M = \log_b N$, then $M = N$

- Examples:

1. $3^{2x+1} = 81$

2. $8^{1-x} = 4^{x+2}$

3. $9^x = \frac{1}{\sqrt[3]{3}}$

4. $5^x = 17$

5. $e^{5x-3} - 2 = 10476$

6. $e^{4x} + 5e^{2x} - 24 = 0$

7. $\log_5 x = 3$

8. $6\ln(2x) = 30$

9. $3\log x = \log 125$

10. $2\log_3(x+4) = \log_3 9 + 2$

11. $\log_2(x-1) - \log_2(x+3) = \log_2\left(\frac{1}{x}\right)$