

6.4.D1 – Logarithms & Exponents

Evaluate the logarithm by converting to exponential form. Use the properties of exponents to simplify the logarithm.

1. $\log_2 16 = y$

2. $\log_{36} 6 = y$

3. $\log_2 \sqrt{2} = y$

4. $\log_{1/2} 8 = y$

5. $\log_3 81 = y$

6. $\log_3 \frac{1}{27} = y$

Use the One-to-One Property of Exponents to solve the exponential equation.

7. $2^{2x-1} = 32$

8. $3^{2x+1} = 27$

9. $9^x = 27$

10. $25^x = \sqrt{5}$

11. $64^{3x+1} = 16$

12. $2^{x+3} = 4^{x-2}$

13. $3^x = \frac{1}{81}$

14. $216^{x+3} = \frac{1}{6}$