

Exponents and Logarithms Worksheet

Rewrite each equation in exponential form.

1) $\log_{15} 225 = 2$

2) $\log_{11} 121 = 2$

3) $\log_p \frac{3}{2} = 3$

4) $\log_y x = 18$

Rewrite each equation in logarithmic form.

5) $3^2 = 9$

6) $17^2 = 289$

7) $a^b = \frac{52}{47}$

8) $y^{-19} = x$

Evaluate each expression.

9) $\log_7 \frac{1}{49}$

10) $\log_7 343$

11) $\log_5 \frac{1}{125}$

12) $\log_6 \frac{1}{36}$

$$13) \log_{36} 6$$

$$14) \log_2 \frac{1}{4}$$

$$15) \log_{\frac{1}{6}} \frac{1}{216}$$

$$16) \log_{49} \frac{1}{7}$$

Solve each equation.

$$17) 9^{3m-1} = \frac{1}{27}$$

$$18) 5^{2n-1} = 25$$

$$19) 2^{2a-2} = 4$$

$$20) 125^{2-2n} = 25^n$$

$$21) 19^{10x} = 84$$

$$22) 6^{v+8} = 32$$