

Exponents and Logarithms

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Date _____ Period _____

Rewrite each equation in exponential form.

1) $\log_y 100 = x$

2) $\log_b a = 11$

3) $\log_x \frac{52}{105} = y$

4) $\log_n 57 = m$

5) $\log_v 59 = u$

6) $\log_{16} m = n$

7) $\log_{11} y = x$

8) $\log_u v = -6$

9) $\log_{324} 18 = \frac{1}{2}$

10) $\log_a b = 20$

Rewrite each equation in logarithmic form.

11) $169^{\frac{1}{2}} = 13$

12) $\left(\frac{4}{9}\right)^x = y$

13) $m^n = 126$

14) $x^3 = 97$

15) $20^y = x$

16) $8^2 = 64$

17) $v^u = 92$

18) $9^{-2} = \frac{1}{81}$

19) $15^v = u$

20) $6^{-2} = \frac{1}{36}$

Rewrite each equation in exponential form.

$$21) \log_x \frac{14}{27} = y$$

$$22) \log_x y = -7$$

$$23) \log_9 81 = 2$$

$$24) \log_{14} 196 = 2$$

$$25) \log_9 60 = x$$

$$26) \log_5 k = -13$$

$$27) \log_{18} u = v$$

$$28) \log_3 9 = 2$$

$$29) \log_5 625 = 4$$

$$30) \log_a 3 = b$$

Rewrite each equation in logarithmic form.

$$31) y^{-\frac{10}{7}} = x$$

$$32) 4^2 = 16$$

$$33) 7^{-3} = \frac{1}{343}$$

$$34) x^y = 170$$

$$35) 2^3 = 8$$

$$36) y^{-18} = x$$

$$37) 11^v = u$$

$$38) \left(\frac{1}{4}\right)^2 = \frac{1}{16}$$

$$39) 2^2 = 4$$

$$40) 8^{\frac{1}{3}} = 2$$