

Logarithmic Functions as Inverses (8-3) HW

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Evaluate each expression.

1) $\log_3 27$

2) $\log_3 9$

3) $\log_5 125$

4) $\log_3 81$

5) $\log_4 16$

Rewrite each equation in exponential form.

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

7) $\log_3 \frac{1}{81} = -4$

8) $\log_9 81 = 2$

9) $\log_9 \frac{1}{81} = -2$

10) $\log_{17} 1 = 0$

Rewrite each equation in logarithmic form.

11) $17^0 = 1$

12) $17^2 = 289$

13) $10^0 = 1$

14) $18^2 = 324$

15) $8^2 = 64$

Rewrite each equation in exponential form.

16) $\log_x y = \frac{1}{14}$

17) $\log_{\frac{5}{3}} y = x$

18) $\log_{18} b = a$

Rewrite each equation in logarithmic form.

19) $y^x = 87$

20) $v^{10} = u$

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Evaluate each expression.

1) $\log_3 27$

3

2) $\log_3 9$

2

3) $\log_5 125$

3

4) $\log_3 81$

4

5) $\log_4 16$

2

Rewrite each equation in exponential form.

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

7) $\log_3 \frac{1}{81} = -4$ $3^{-4} = \frac{1}{81}$

8) $\log_9 81 = 2$

$9^2 = 81$

9) $\log_9 \frac{1}{81} = -2$ $9^{-2} = \frac{1}{81}$

10) $\log_{17} 1 = 0$

$17^0 = 1$

Rewrite each equation in logarithmic form.

11) $17^0 = 1$

$\log_{17} 1 = 0$

12) $17^2 = 289$

$\log_{17} 289 = 2$

13) $10^0 = 1$

$\log 1 = 0$

14) $18^2 = 324$

$\log_{18} 324 = 2$

15) $8^2 = 64$

$\log_8 64 = 2$

Rewrite each equation in exponential form.

16) $\log_x y = \frac{1}{14}$ $x^{\frac{1}{14}} = y$

17) $\log_{\frac{5}{3}} y = x$ $\left(\frac{5}{3}\right)^x = y$

18) $\log_{18} b = a$

$18^a = b$

Rewrite each equation in logarithmic form.

19) $y^x = 87$

$\log_y 87 = x$

20) $v^{10} = u$

$\log_v u = 10$