Name : _____ Score : _____

Teacher : _____ Date : _____

The Meaning of Logarithms

Rewrite each in exponential form.

1) $\log_8 64 = 2$

2) $\log_m s = -2$

3) $\log_{256} 4 = \frac{1}{4}$

4) $\log_4 1024 = 5$

5) $\log_{13} \frac{1}{169} = -2$

6) $\log_{1000} 10 = \frac{1}{3}$

Rewrite each in logarithmic form.

7) $d^m = \frac{3}{23}$

8) $r^{-4} = w$

9) $8^{-2} = \frac{1}{64}$

10) $729^{\frac{1}{3}} = 9$

11) $q^r = \frac{15}{29}$

12) $n^{-y} = \frac{29}{19}$

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The Meaning of Logarithms

Evaluate each expression.

1) $\log_6 36$

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

3) $\log_{81} 3$

4) $\log_4 \frac{1}{1024}$

5) $\log_{16} 4$

6) $\log_2 8$

7) $\log_4 \frac{1}{256}$

8) $\log_4 \frac{1}{1024}$

9) $\log_{25} 5$

10) $\log_{27} 3$

11) $\log_4 256$

12) $\log_4 1024$

Name : _____ Score : _____

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The Meaning of Logarithms

Rewrite each in exponential form.

1) $\log_8 64 = 2$

$8^2 = 64$

2) $\log_m s = -2$

$m^{-2} = s$

3) $\log_{256} 4 = \frac{1}{4}$

$256^{\frac{1}{4}} = 4$

4) $\log_4 1024 = 5$

$4^5 = 1024$

5) $\log_{13} \frac{1}{169} = -2$

$13^{-2} = \frac{1}{169}$

6) $\log_{1000} 10 = \frac{1}{3}$

$1000^{\frac{1}{3}} = 10$

Rewrite each in logarithmic form.

7) $d^m = \frac{3}{23}$

$\log_d \frac{3}{23} = m$

8) $r^{-4} = w$

$\log_r w = -4$

9) $8^{-2} = \frac{1}{64}$

$\log_8 \frac{1}{64} = -2$

10) $729^{\frac{1}{3}} = 9$

$\log_{729} 9 = \frac{1}{3}$

11) $q^r = \frac{15}{29}$

$\log_q \frac{15}{29} = r$

12) $n^{-y} = \frac{29}{19}$

$\log_n \frac{29}{19} = -y$

Name : _____ Score : _____

Teacher : _____ Date : _____

The Meaning of Logarithms

Evaluate each expression.

1) $\log_6 36$

2

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

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3) $\log_{81} 3$

$\frac{1}{4}$

4) $\log_4 \frac{1}{1024}$

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5) $\log_{16} 4$

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7) $\log_4 \frac{1}{256}$

-4

8) $\log_4 \frac{1}{1024}$

-5

9) $\log_{25} 5$

$\frac{1}{2}$

10) $\log_{27} 3$

$\frac{1}{3}$

11) $\log_4 256$

4

12) $\log_4 1024$

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