Name : _____ Score : _____

Teacher : _____ Date : _____

The Meaning of Logarithms

Rewrite each in exponential form.

1) $\log_9 81 = 2$

2) $\log_{216} 6 = \frac{1}{3}$

3) $\log_3 81 = 4$

4) $\log_4 \frac{1}{1024} = -5$

5) $\log_{64} 8 = \frac{1}{2}$

6) $\log_m \frac{23}{29} = -d$

Rewrite each in logarithmic form.

7) $16^{\frac{1}{4}} = 2$

8) $g^{-3} = n$

9) $2^{-2} = \frac{1}{4}$

10) $g^{-x} = \frac{7}{19}$

11) $s^3 = p$

12) $w^{-b} = \frac{5}{29}$

Name : _____ Score : _____

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The Meaning of Logarithms

Evaluate each expression.

1) $\log_{225} 15$

2) $\log_{9} \frac{1}{729}$

3) $\log_{3} \frac{1}{81}$

4) $\log_{3} \frac{1}{243}$

5) $\log_{11} 121$

6) $\log_{3} \frac{1}{27}$

7) $\log_{4} 256$

8) $\log_{2} 32$

9) $\log_{100} 10$

10) $\log_{2} 8$

11) $\log_{256} 4$

12) $\log_{243} 3$

Name : _____ Score : _____

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The Meaning of Logarithms

Rewrite each in exponential form.

1) $\log_9 81 = 2$

$9^2 = 81$

2) $\log_{216} 6 = \frac{1}{3}$

$216^{\frac{1}{3}} = 6$

3) $\log_3 81 = 4$

$3^4 = 81$

4) $\log_4 \frac{1}{1024} = -5$

$4^{-5} = \frac{1}{1024}$

5) $\log_{64} 8 = \frac{1}{2}$

$64^{\frac{1}{2}} = 8$

6) $\log_m \frac{23}{29} = -d$

$m^{-d} = \frac{23}{29}$

Rewrite each in logarithmic form.

7) $16^{\frac{1}{4}} = 2$

$\log_{16} 2 = \frac{1}{4}$

8) $g^{-3} = n$

$\log_g n = -3$

9) $2^{-2} = \frac{1}{4}$

$\log_2 \frac{1}{4} = -2$

10) $g^{-x} = \frac{7}{19}$

$\log_g \frac{7}{19} = -x$

11) $s^3 = p$

$\log_s p = 3$

12) $w^{-b} = \frac{5}{29}$

$\log_w \frac{5}{29} = -b$

Name : _____ Score : _____

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The Meaning of Logarithms

Evaluate each expression.

1) $\log_{225} 15$

$\frac{1}{2}$

2) $\log_{9} \frac{1}{729}$

-3

3) $\log_{3} \frac{1}{81}$

-4

4) $\log_{3} \frac{1}{243}$

-5

5) $\log_{11} 121$

2

6) $\log_{3} \frac{1}{27}$

-3

7) $\log_{4} 256$

4

8) $\log_{2} 32$

5

9) $\log_{100} 10$

$\frac{1}{2}$

10) $\log_{2} 8$

3

11) $\log_{256} 4$

$\frac{1}{4}$

12) $\log_{243} 3$

$\frac{1}{5}$