

## Introduction to Using Logarithms

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**Evaluate each expression .**

1)  $\log_6 36$

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

3)  $\log_2 64$

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

5)  $\log_4 \frac{1}{64}$

**Solve each equation. Round your answers to the nearest ten-thousandth.**

6)  $12^p = 88$

7)  $4^x = 89$

8)  $20^a = 83$

9)  $9^r = 9$

10)  $16^b = 9$

11)  $18^x = 1$

$$12) 12^x = 55$$

$$13) 6^x = 21$$

$$14) 2^p = 99$$

$$15) 11^x = 46$$

$$16) 9^{b-10} = 40.1$$

$$17) 9^{8p} = 14$$

$$18) 5^{6m} = 76$$

$$19) 7^{6m} = 1$$

$$20) 10^{3.2n} = 77$$

$$21) -6 \cdot 14^n = -100$$

$$22) 14^m + 9 = 93$$

$$23) -2 \cdot 9^p = -60.2$$

$$24) 3 \cdot 6^n = 40$$

$$25) -0.3 \cdot 8^r = -55$$