

Name: _____

Date: _____

Class/Period: _____

Properties of Logarithms Quiz

Find each equation in exponential form:

1. $\log_5 \frac{1}{125} = -3$

a. $3^5 = 125$

b. $5^3 = 125$

c. $(-3)^5 = 125$

d. $5^{-3} = \frac{-1}{125}$

2. $\log_7 \frac{1}{2401} = -4$

a. $7^{-4} = \frac{1}{2401}$

b. $7^{-4} = 2401$

c. $7^4 = \frac{1}{2401}$

d. $4^{-7} = \frac{1}{2401}$

Evaluate each logarithmic expression:

3. $\log_2 4$

a. 2^2

b. 2

c. 4

d. 2^4

4. $\log_4 \frac{1}{64}$

a. $4^{\frac{1}{64}}$

b. 4^3

c. 3

d. -3

Solve each equation for x :

5. $\log_{64} x = \frac{5}{6}$

a. $\frac{160}{3}$

b. $\frac{5}{6}$

c. 32

d. 64

6. $\log_4 x = 4$

a. 1

c. 4

c. 256

d. 16

7. $\log_3 8 + \log_3 x = \log_3 10$

a. 0.80

b. 1.25

c. 2

d. 18

8. $\log_2 (x + 3) - \log_2 5 = \log_2 13$

a. 123

b. 65

c. 62

d. 126