

Evaluating Logs

Date _____ Period _____

Use the Definition of a Log to REWRITE AND EVALUTE the expressions below.

1) $\log_6 36 = ? = 2$

$6^? = 36$

$6^? = 6^2$

$? = 2$

2) $\log_2 16 = ? = 4$

$2^? = 16$

$2^? = 2^4$

$? = 4$

3) $\log_5 \frac{1}{125} = ? = -3$

$5^? = \frac{1}{125}$

$5^? = 5^{-3}$

$? = -3$

4) $\log_3 81 = ? = 4$

$3^? = 81$

$3^? = 3^4$

$? = 4$

5) $\log_2 2 = ? = 1$

$2^? = 2^1$

$? = 1$

6) $\log_3 \frac{1}{27} = ? = -3$

$3^? = \frac{1}{27}$

$3^? = 3^{-3}$

$? = -3$

7) $\log_4 1 = ? = 0$

$4^? = 1$

$4^? = 4^0$

$? = 0$

8) $\log_2 \frac{1}{4} = ? = -2$

$2^? = \frac{1}{4}$

$2^? = 2^{-2}$

$? = -2$

9) $\log_3 27 = ? = 3$

$3^? = 27$

$3^? = 3^3$

$? = 3$

10) $\log_6 \frac{1}{36} = ? = -2$

$6^? = \frac{1}{36}$

$6^? = 6^{-2}$

$? = -2$