

Introduction to Logarithmic Functions

Block: _____ Mark out of 26 _____

Rewrite each equation in logarithmic form.

1) $14^2 = 196$

2) $2^3 = 8$

3) $20^0 = 1$

4) $16^0 = 1$

Rewrite each equation in exponential form.

5) $\log_3 243 = 5$

6) $\log_8 \frac{1}{8} = -1$

7) $\log_4 \frac{1}{4} = -1$

8) $\log_{81} 9 = \frac{1}{2}$

Evaluate each expression without a calculator.

9) $\log_5 125$

10) $\log_6 6$

11) $\log_5 25$

12) $\log_2 \frac{1}{32}$

13) $\log_{343} \frac{1}{7}$

14) $\log_2 \frac{1}{4}$

15) $\log_1 9$

16) $\log_6 1$

17) $\log_3 81$

18) $\log_3 243$

Identify the domain and range of each. Then sketch the graph.

19) $y = \log_6 (x + 2) - 1$

20) $y = \log_2 (x - 1) + 4$

