

Write the equation in its equivalent exponential form.

1) $\log_2 8 = 3$

1) _____

A) $3^2 = 8$

B) $8^3 = 2$

C) $2^3 = 8$

D) $2^8 = 3$

2) $\log_b 32 = 5$

Write the equation in its equivalent logarithmic form.

3) $4^3 = 64$

4) $\sqrt[3]{8} = 2$

Evaluate the expression.

5) $\log_{10} 1000$

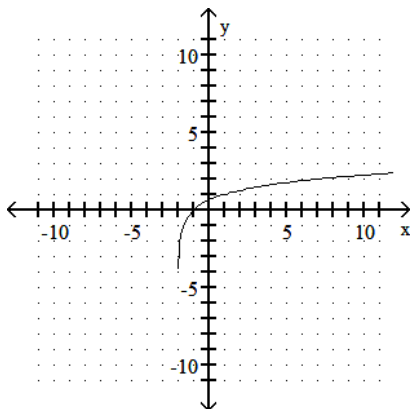
6) $\log_5 \sqrt{5}$

7) $3^{\log_3 18}$

The graph of a logarithmic function is given. Select the function for the graph from the options.

8)

8) _____



A) $f(x) = \log_3 (x - 2)$

B) $f(x) = \log_3 x + 2$

C) $f(x) = \log_3 (x + 2)$

D) $f(x) = \log_3 x$

Find the domain of the logarithmic function.

9) $f(x) = \log_4 (x - 8)$

Solve the problem.

10) The pH of a solution is given by $\text{pH} = -\log x$ where x represents the concentration of the hydrogen ions in the solution in moles per liter. Find the pH if the hydrogen ion concentration is 6.4×10^{-3} .

Evaluate the expression.

11) $\ln e^{5x}$

Answer Key

Testname: PRACTICE14

1) C

2) $b^5 = 32$

3) $\log_4 64 = 3$

4) $\log_8 2 = \frac{1}{3}$

5) 3

6) $\frac{1}{2}$

7) 18

8) C

9) $(8, \infty)$

10) 2.19

11) $5x$