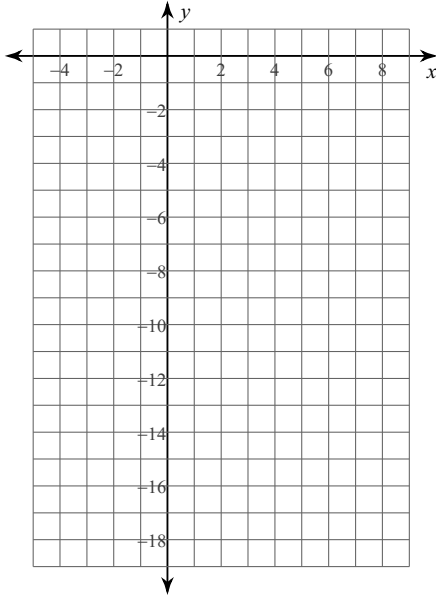


Loop Review

Date _____ Period _____

Sketch the graph of each function.

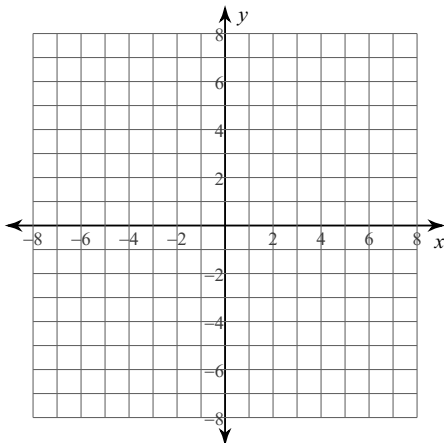
1) $y = -\frac{1}{3} \cdot 2^{x-2} + 1$

**Find the inverse of each function.**

2) $y = \log_4(x + 6)$

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

3) $y = \log(x + 5) + 4$



Expand each logarithm.

4) $\log_5 (z\sqrt[3]{x \cdot y})$

Condense each expression to a single logarithm.

5) $3 \log_3 5 + 3 \log_3 12 + 12 \log_3 7$

Solve each equation.

6) $2^{3x} = \frac{1}{32}$

7) $\log_2 x - \log_2 (x + 5) = 4$

8) You deposit \$5,000 in a bank account. Find the balance after 7 years for an account that pays 4% annual interest compounded quarterly.

9) You deposit \$2000 in an account that pays 7% annual interest compounded continuously. What is the balance after 6 years?

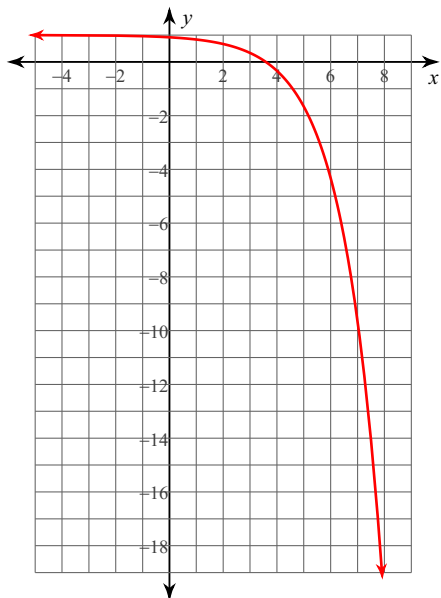
10) The slope of the beach is related to the average diameter (d) of the sand particles on the beach by the formula: $s = 0.159 + 0.118 \log d$. Find the slope of a beach if the average diameter of the sand particles is 0.056 millimeters.

Loop Review

Date _____ Period _____

Sketch the graph of each function.

1) $y = -\frac{1}{3} \cdot 2^{x-2} + 1$

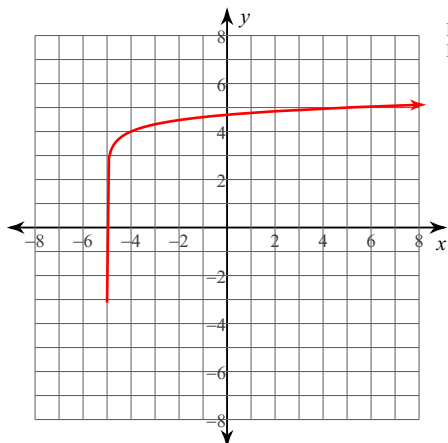
**Find the inverse of each function.**

2) $y = \log_4(x + 6)$

$$y = 4^x - 6$$

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

3) $y = \log(x + 5) + 4$



Domain: $x > -5$
Range: All reals

Expand each logarithm.

$$4) \log_5 (z\sqrt[3]{x \cdot y}) \quad \log_5 z + \frac{\log_5 x}{3} + \frac{\log_5 y}{3}$$

Condense each expression to a single logarithm.

$$5) 3 \log_3 5 + 3 \log_3 12 + 12 \log_3 7$$
$$\log_3 (5^3 \cdot 7^{12} \cdot 12^3)$$

Solve each equation.

$$6) 2^{3x} = \frac{1}{32}$$

$$\left\{ \begin{array}{l} 5 \\ -\frac{5}{3} \end{array} \right\}$$

$$7) \log_2 x - \log_2 (x + 5) = 4$$

No solution.

8) You deposit \$5,000 in a bank account. Find the balance after 7 years for an account that pays 4% annual interest compounded quarterly.

\$6,606.46

9) You deposit \$2000 in an account that pays 7% annual interest compounded continuously. What is the balance after 6 years?

\$3043.92

10) The slope of the beach is related to the average diameter (d) of the sand particles on the beach by the formula: $s = 0.159 + 0.118 \log d$. Find the slope of a beach if the average diameter of the sand particles is 0.056 millimeters.

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