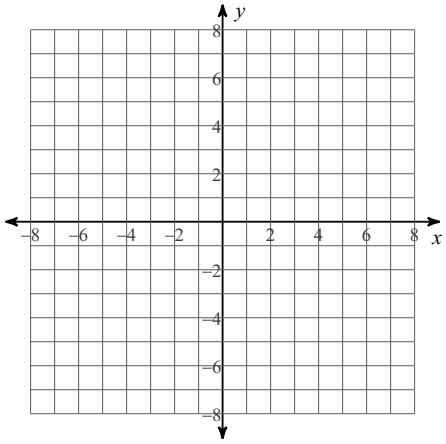
Pre-Calculus AB Name_____

Worksheet 17 - Lesson 49 & 50

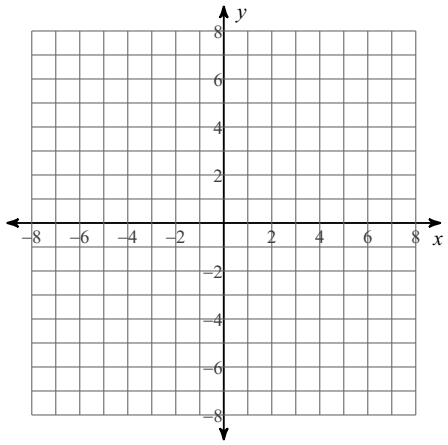
Date_____ Period____

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

1) $f(x) = \log_3 (x - 1)$



2) $f(x) = \log (x + 3) - 3$



Solve each equation.

3) $\log_7 (x + 2) - \log_7 (x + 5) = 2$

4) $\log_3 (2x^2 + 9) + \log_3 2 = 3$

5) $\ln (x + 3) - \ln (x - 1) = 5$

6) $\log_4 3 - \log_4 (3x + 2) = 1$

Condense each expression to a single logarithm.

7) $2\log_5 x + 2\log_5 z - 10\log_5 y$

8) $\log_3 c + 4\log_3 a + 5\log_3 b$

Solve each equation for $0 \le \theta < 2\pi$.

9) $4\sec\theta = 4\sqrt{2}$

10) $0 = 4\sin\theta$

11) $-4 + \tan\theta = \dfrac{-12 - \sqrt{3}}{3}$

12) $-\dfrac{1}{2} \cdot \cos\theta = \dfrac{\sqrt{2}}{2}$

13) $-2 + \sin\theta = -1$

14) $-\dfrac{1}{5} \cdot \cot\theta = \dfrac{1}{5}$