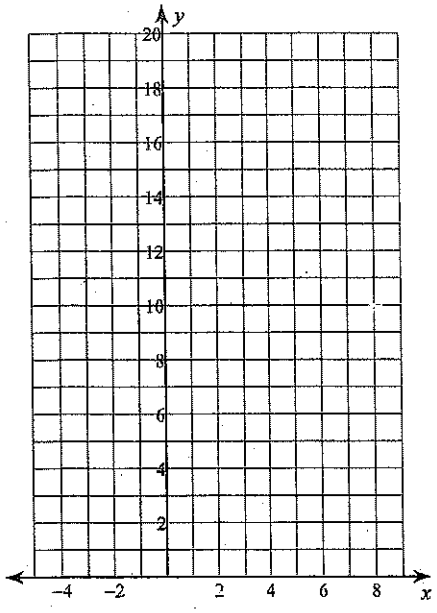
Pre-Calculus Name_____

8-1 Homework

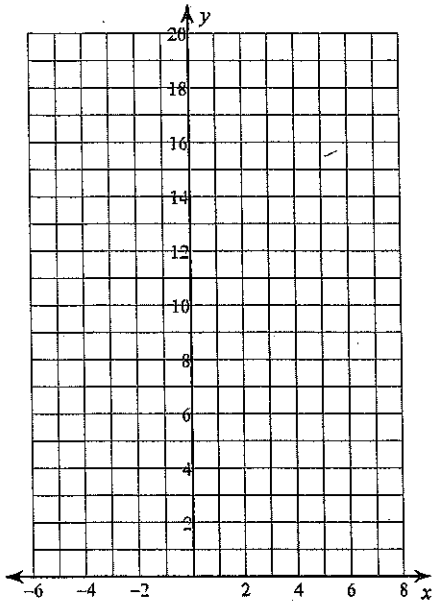
Date_____

Sketch the graph of each function.

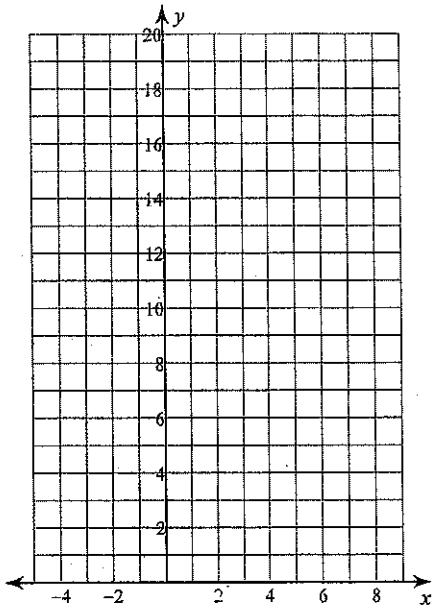
1) $y = \left(\frac{1}{6}\right)^{x-2} + 1$



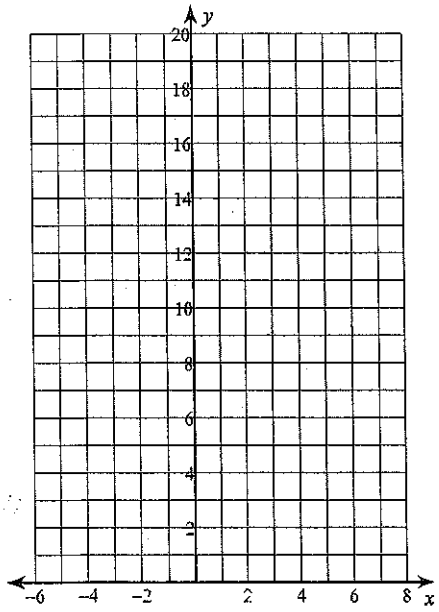
2) $y = 2^{x-1} + 1$



3) $y = e^{x-2} + 2$



4) $y = \left(\frac{1}{2}\right)^{x-1} + 1$



Solve each equation.

5) $16^{-m} = 64^{-3m-2}$

6) $9^{3x} = 27^{-3x}$

7) $4^{p+3} = 4^{-p}$

8) $\left(\frac{1}{216}\right)^{3n} = \left(\frac{1}{36}\right)^{n}$

Rewrite each equation in exponential form.

9) $\log_{12} 144 = 2$

10) $\log_{11} 121 = 2$

11) $\log_{225} 15 = \frac{1}{2}$

12) $\log_4 \frac{1}{16} = -2$

Rewrite each equation in logarithmic form.

13) $\left(\frac{1}{12}\right)^2 = \frac{1}{144}$

14) $2^{-2} = \frac{1}{4}$

15) $12^1 = 12$

16) $14^1 = 14$

Evaluate each expression.

17) $\log_5 \frac{1}{125}$

18) $\log_4 16$

19) $\log_3 9$

20) $\log_7 49$

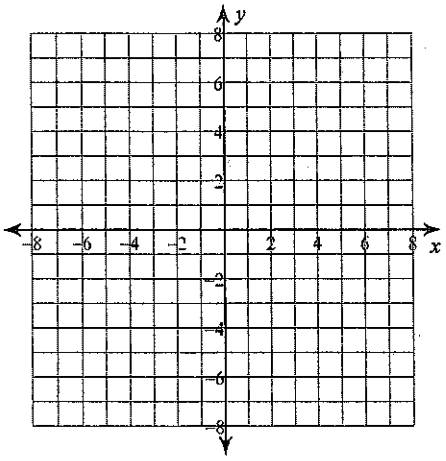
Identify the domain and range of each.

21) $y = \log_3 (x-1) - 5$

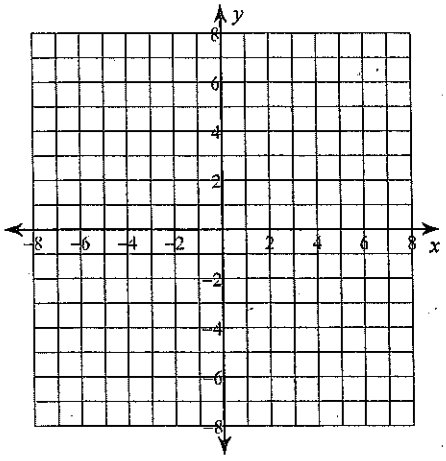
22) $y = \log_6 (x-2)$

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

23) $y = \log_3 (x-2) - 4$



24) $y = \log_4 (x-1) + 5$



Solve each equation.

25) $\log_3 (x+3) = 4$

26) $\log_4 5x = -2$

27) $\log_9 (x-7) = 2$

28) $\log_6 (n+1) = 1$

Solve each equation. Round your answers to the nearest ten-thousandth.

29) $-7e^{8.4r} = -18$

30) $-6e^{4a} = -47$