IM 3 Name_____

7-3 to 7-5 Practice 1

Date_____ Period____

Rewrite each equation in logarithmic form.

1) $p^{-7} = 9$

2) $a^{-9} = b$

Rewrite each equation in exponential form.

3) $\log_a b = 20$

4) $\log_4 152 = x$

Find the inverse of each function.

5) $y = 10^{\frac{x}{3}}$

6) $y = 8 \log x$

7) $y = \ln x + 8$

8) $y = \log_5 e^x$

Expand each logarithm.

9) $\log_3 \frac{u}{v^6}$

10) $\log_4 (x \cdot y \cdot z)$

Condense each expression to a single logarithm.

11) $\log_8 x - 2 \log_8 y$

12) $\log_6 x + 6 \log_6 y$

First, write how you would type this into the calculator, then use a calculator to approximate each to the nearest thousandth.

13) $\log_6 19$

14) $\log 22$

15) $\log_7 68$

16) $\log_5 50$

Solve each equation.

17) $7\log -m - 7 = 0$

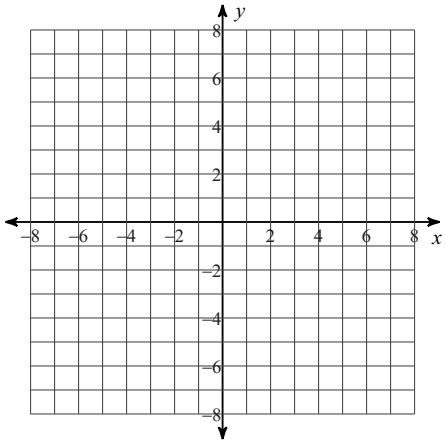
18) $-7 - 9\log 6r = -7$

19) $-7\log_8 -6b + 4 = -24$

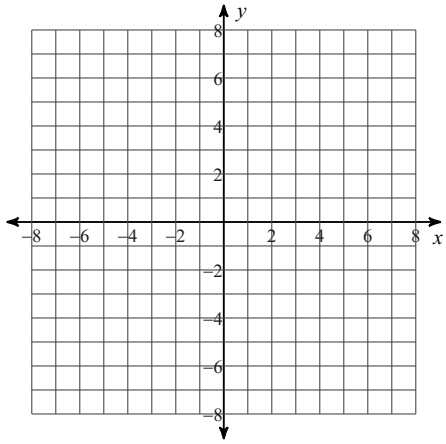
20) $5\log_3 (p - 3) - 10 = 5$

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

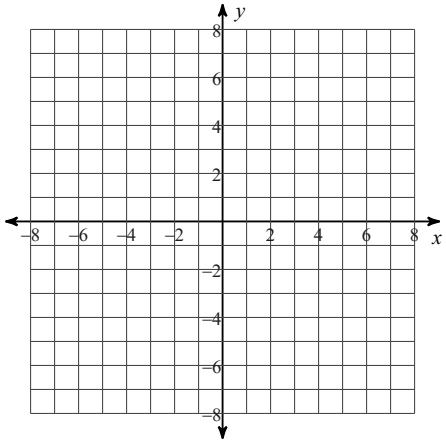
21) $y = \log_4 (x - 1) - 5$



22) $y = \log_2 (x - 3) - 4$



23) $y = \log_4 (x - 1) - 1$



24) $y = \log_3 (x + 1) + 1$