Pre-Calcuclus 12 **7.4-7.6 Extra Practice** **Name: _____**

A1. Write $\log_x y = z + 2$ in exponential form.

A2. Write $a = b^{c+1}$ in logarithmic form.

B1. Evaluate: $\log_5 \frac{1}{125}$

B2. $\log \sqrt[3]{1000000}$

B3. Evaluate: $3\log_3\left(\frac{1}{27}\right) + \frac{1}{2}\log_2 64$

B4. Solve for x: a) $\log x = -3$ b) $\log_2 16 + \log_3 \frac{1}{9} = \log_5 x$

C1. Use benchmarks to estimate the value of : a) $\log_3 25$ b) $\log_4 14$

E1. Evaluate the above values exactly (round to the nearest hundredth – 2 decimal places).

D1. Write as a single logarithm:

a) $2\log m + \log n - 5\log p$

b) $3\log a + \frac{1}{2}\log b - \frac{5}{4}\log c$

c) $\frac{1}{2}\log x - 2\log y - \log z$

d) $2 + 4\log_3 x - \frac{1}{2}\log_3 y$

D2. Evaluate:

a) $\log_2 24 - \log_2\left(\frac{3}{4}\right)$ b) $3\log_4 2 + \log_4 6 + \log_4\left(\frac{4}{3}\right)$

c) $\frac{1}{2}\log_3 18 + \log_3\sqrt{5} - \frac{1}{2}\log_3 10$

D3. Write $\log\left(\frac{x^2}{y^3\sqrt{z}}\right)$ in terms of $\log x$, $\log y$, and $\log z$.

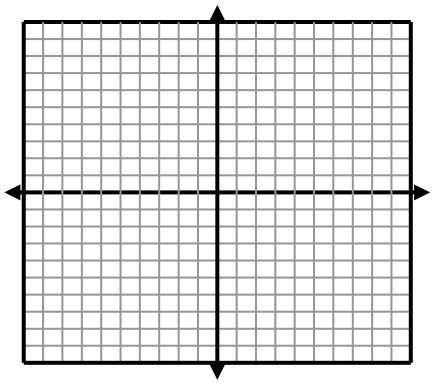
D4. If $\log_2 x = 6$ and $\log_2 y = 2$, evaluate $\log_2\left(\frac{4x}{y^2}\right)$.

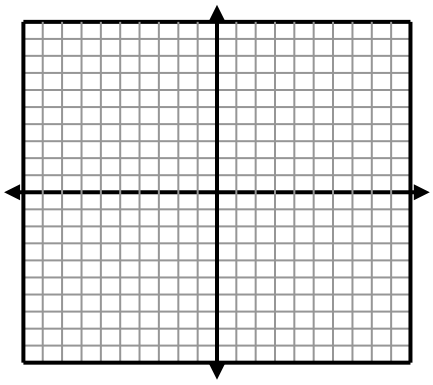
F2. State the domain, range, and equation of the asymptote of:

a) $y = \log_3(x-2)+1$ b) $y = \log_2(x+3)$ c) $y = \log_2(x-3)+2$

F1. Sketch the following. Label at least 3 points and the equation of the asymptote.

a) $y = \log_2(x+2)+1$ b) $y = 2\log_3(x-1)$





G1. Determine the domain, range, equation of the asymptote, and intercepts of the graph in F.