Ch.4 extra practice: NO CALCULATOR!! **NAME:** **PER:**

Check answers A-O:	-3/4	1/3	5/2	5/2	no	3	3	8	81
	ln200	$\ln\frac{2}{3}$	7^{4y-9}	7^{2y+5}	7^{7y-11}	yes			

A. Solve for x:

$\log_5(3) + \log_5(4x + 7) = 2$

B. Write as a single logarithm:

$\ln 6 + 2\ln 10 - \frac{1}{3}\ln 27$

C . Evaluate: $\left(\sqrt{2}\right)^6$

D . Evaluate: $\left(\sqrt{3}\right)^8$

Solve for x by getting like bases on both sides:

E. $16^x = \frac{1}{8}$

F. $9^x = 243$

Evaluate as given **(don't rewrite, solve the individual parts as is and follow proper order of operations!!)**

G. $\log_2 32 - \log_2 4$

$\square - \square = \square$

H. $\frac{\log_2 32}{\log_2 4}$ $\frac{\square}{\square} = \square$

I. $\log_2 \frac{32}{4} = \log_2 \square$

$= \square$

J. Is $\log_b \frac{m}{n} = \frac{\log_b m}{\log_b n}$???

according to your answers in parts I and H?

K. Is $\log_b \frac{m}{n} = \log_b m - \log_b n$

according to your answers in parts I and G?

Simplify by writing as a single base. Show work for parts L and N.

L. $\frac{7^{3y-2}}{7^{y-7}}$

M. $7^{y-7} \bullet 7^{3y-2}$

N. $7^{y-7} \bullet [7^{3y-2}]^2$

O. Solve for x. Clearly show ALL steps and use the proper order of operations when applying properties of logarithms.

$\ln\left(\frac{4e^{3x}}{9}\right) = 5x$