Math 41
Quiz 6
Due Monday April 4th in class

Use the appropriate formula: $A = P\left(1+\frac{r}{n}\right)^{nt}$ or $A = Pe^{rt}$

Find the amount in an account if $25,000 is deposited and earning 3% interest for 10 years and the interest is compounded,

a) monthly.

b) continuously.

Evaluate and write the exponential in logarithmic form, or find the logarithm and write in exponential form.

Exponential Form	Logarithmic Form
$4^3 =$	
$\left(\frac{2}{3}\right)^{-3} =$	
$e^3 \approx$	
$\sqrt[4]{e^5} \approx$	
$e^{-0.0125} \approx$	

Exponential Form	Logarithmic Form
	$\log_2 16 =$
	$\log_5 \frac{1}{125} =$
	$\log_{\frac{1}{4}} 4 =$
	$\ln e^2 =$
	$\ln 1 =$

Use properties of logarithms to expand or condense.

Expand: $\ln\left(x\sqrt{x^2+5}\right)$

Condense: $4\ln x - \frac{2}{3}\ln(2x+1)$

The number of burpees a Personal Trainer proposes for you at the end of your weekly sessions can be modeled by $N = \dfrac{72}{1+11e^{-0.25t}}$ where N is the number of burpees and t is the number of training sessions in which you have participated. Find the initial number of burpees, $t = 0$ and the approximate number after twelve weeks, $t = 12$.

Initial number

After 12 weeks