

# Logarithms Engaging Resources

## R&F SO7: Log War

(Link: [Log War](#))

Log War may work as a great formative assessment tool since you will quickly be able to identify students who don't understand logarithms since they will struggle to get started with this game. Great communication between students may also occur as they assist each other in determining the value of the logarithmic expressions on the cards.

Tuesday, March 24, 2009

### This Game Really Is Worth 1000 Worksheets



*"Of course you realize, this means war."*

I learned about this from Denise at [Let's Play Math](#) - turn evaluating expressions or comparing quantities into a game of War. For some reason, every kid loves War. I used it today for the trig classes to mentally evaluate the values of logs. It was a big hit. I made decks of 30 by [printing out these](#) (word doc) and introducing them to Mr. Paper Cutter. Here is the pdf (Thank you, Kenneth.)

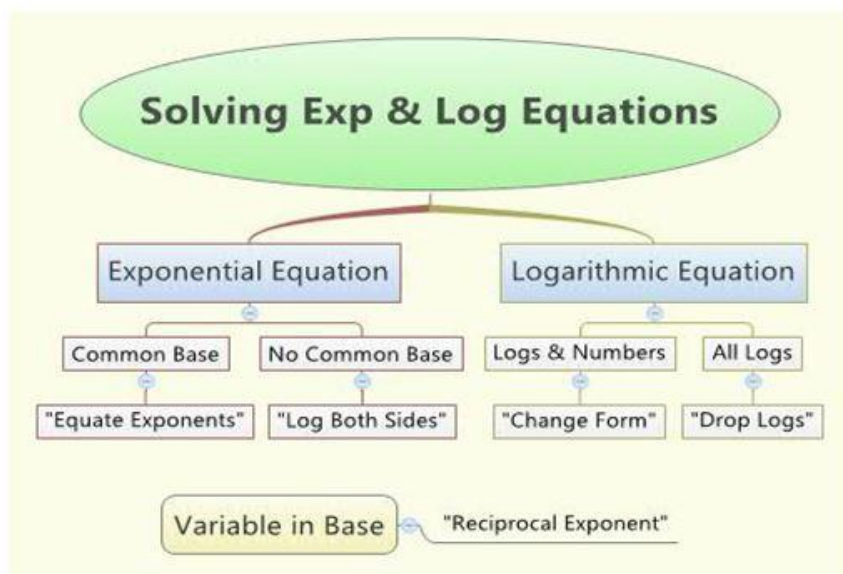
Posted by Kate Nowak at 10:34 AM

$\log_2\left(\frac{1}{2}\right)$	$\log_4 16$
$\log_{100} 10$	$\log 10$
$\log_4 64$	$\log_9 81$

## R&F SO10: Solving Exponential & Logarithmic Equations Strategy Chart

(Download: [E&LSolvingEqnsStrategyCharts.docx](#))

These charts may assist students in selecting the various strategies available to solve exponential and logarithmic functions. The flow chart highlights the strategy selection process and the table also provides some questions that may be used as examples.



Exponential Equation	Logarithmic Equation
<p><i>Common Base</i> "Equate Exponents"</p> $25^{x+8} = \frac{1}{125^{x-4}}$	<p><i>Logs &amp; #'s</i> "Single Log = Single # -&gt; Change Form"</p> $\log_6(x - 8) = 2$ $2 \log_3 x - \log_3(x + 3) - 3 = 0$
<p><i>No Common Base</i> "Log Both Sides"</p> $5^x = 13$ $4^{3x} = 7^{2x+5}$	<p><i>All Logs</i> "Single Log = Single Log -&gt; Drop Logs"</p> $\log x - \log 5 = \log 7$ $\log_3 x + \log_3(x - 5) = \log_3 24$
Variable in Base	
"Reciprocal Exponent"	$x^{-\frac{4}{3}} = 81$

Please note: The chart above says "Drop Logs" (not mathematical terminology), I typically explain this as equating the arguments (of the logs with common bases). This strategy is similar to equating exponents that have the same base.