

Daily Agenda

Learning Target: I can define a logarithm  
I can rewrite between exponential and log form  
I can solve a log equation with a calculator

Homework	Assessments
Worksheet	Unit 7 Test - 2/1

It's what you learn after you know it all that counts.  
-John Wooden

Staple and turn in WS #1-4

Nov 15-8:24 PM

7.2 Introduction to Logs

A log is an exponent

$y = \log_a x$

$a^y = x$

$\log_4(-2)$   
no sol.

- y is the exponent (logarithm)
- a is the base,  $a > 0$  and not  $= 1$
- x is the argument,  $x > 0$

Sep 15-10:27 PM

Change of Base

Some calculators only solve in base 10.

$\log x = \log_{10} x$

$y = \log_a x$  is same as  $y = \frac{\log x}{\log a}$

$\log(1000)$   
 $\log_{10} 1000$   
3

$\log_2 4$

$\frac{\log(4)}{\log(2)}$

Oct 25-11:44 AM

Solve.

$2^x = 28$

$\log_2 28 = x$

$\frac{\log 28}{\log 2} = 4.807$

Oct 18-7:48 AM

Solve.

$5^x = 3$

$\log_5 3 = x$

.683

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Solve.

$3^x = -3.5$

no solution

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Solve.

$$3(10)^{-2x} = 34$$

$$10^{-2x} = \frac{34}{3}$$

$$X = -.527$$

$$\log_{10} \frac{34}{3} = \frac{-2x}{-2}$$

Oct 18-7:48 AM

Solve.

$$4 \cdot 23^{.2x} = \frac{371}{4}$$

$$23^{.2x} = \frac{371}{4}$$

$$\log_{23} \frac{371}{4} = 0.2x$$

$$\frac{1.4447}{.2} = \frac{.2x}{.2}$$

$$7.224 = X$$

Oct 18-7:48 AM

Jan 20-11:35 AM