Happy Thursday, January 19th!

Homework on desk!

Do Now: Solve

$$\log_4(x+2) = 5$$

$$4^{5} = x + 2$$
 $1,024 = x + 3$

PLAN
(P+L)(A+N)
PA+PN+LA+LN

Jan 19-8:11 AM

Homework Questions?

Jan 19-10:34 AM

$$| = | \log_{4} 2 \oplus | \log_{4} (3+x) |$$

$$| = | \log_{4} (2)(3+x) | \log_{4} 3+x |$$

$$| = | \log_{4} (6+2x) |$$

$$| \log_{4} (6+2x) |$$

$$| = | 6+2x |$$

$$| = | 6+2x |$$

$$| = | 2 \times 2 \times 2 |$$

Jan 19-10:36 AM

$$|og_{2}(t+1) + |og_{2}(t-1)| = 5$$

$$|og_{2}(t+1)(t-1)| = 5$$

$$|og_{2}(t+1)(t-1)| = 5$$

$$|og_{2}(t^{2}-1)| = 5$$

Jan 19-10:43 AM

U3IF2: Solving Logarithmic and Exponential Equations.

Please Keep Homework out and also find your Graphic Organizer.

Recap: Solving LOGARITHMIC Equations		
Method 1	Method 2	Method 3
One log log_X = 6 * Loop Trick	$\log = \log \log \log (x) = \log_2(x) = \log_2(x) \log (x)$	Craziness Properties expand/cmains /bg, (x)+/ogz(x-2)=6

Jan 19-8:18 AM

Solving Exponential Equations

An exponential equation is:

an equation with a variable as an exponent
$$3^{X+2} = 27$$

$$1093^{27} = x+2$$

Method 1: Make bases match.

When to use? When each number can be written with the same base.

| $(5) = \log(x)$ |

with the same base.

$$\frac{\text{with the same base.}}{2^{x-1}} = 2^{x-1} = 32$$

$$x-1 = 5$$

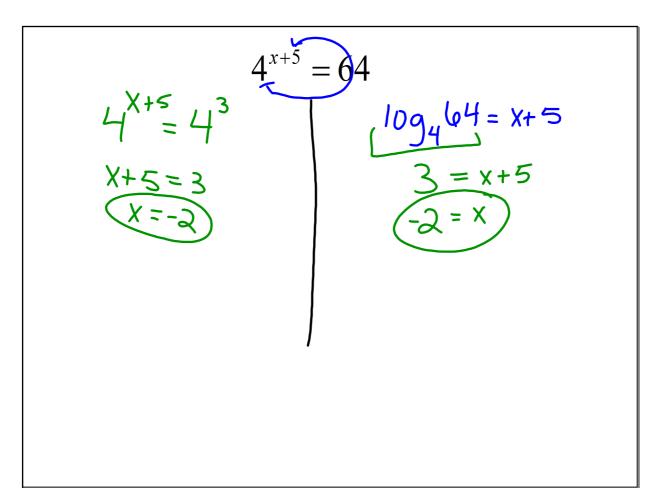
$$\log_2(5) = \log(x-1)$$

$$5 = x-1$$

X-1=5 X=6Write 2 to the 5 power?

$$32 = 32$$
 $10932 = X - 1$
 $5 = X - 1$
 $(0 = X)$

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Method 2: Different Bases

Take the log of each side

$$5^{2x-3} = 18$$

$$\log 5^{2x-3} = \log 8$$

$$(2x-3)\log 5 = \log 8$$

$$\log 5 = \log 8$$

$$\log 5$$

$$2x-3 = \log 8$$

$$\log 5$$

$$2x-3 = \log 8$$

$$\log 5$$

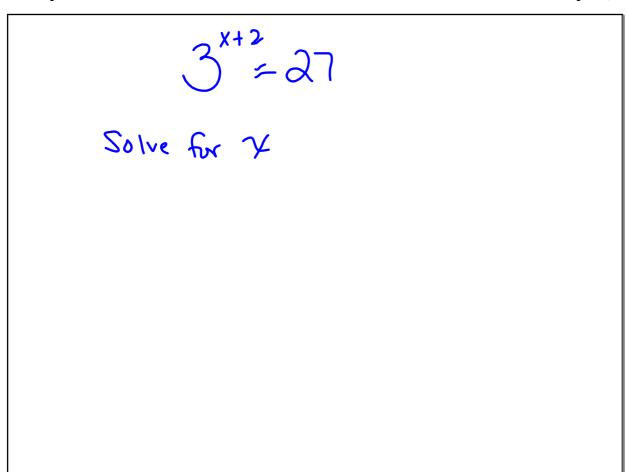
$$2x-3 = 1.796$$

$$2x = 4.796$$

$$x = 2.398$$

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$$8^{4x+1} = 205$$



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