Happy Monday, January 23rd!

No math pics this weekend :(

Do Now:

1) Look over quiz (do NOT put away)

2) Correct one problem from quiz

Jan 22-9:47 PM

Hours 7/8

4	1 student
3	3 students
2	8 students
1	9 students
0	6 students

Hours 9/10

4	1 student
3	4 students
2	5 students
1	9 students
0	3 students

Jan 23-10:12 AM

Reminders:

- Test over last two quizzes on Wednesday!

Logarithms:

- Evaluating

- Rewriting, expanding, condensing

- Solving

Jan 23-9:53 AM

Today:

- Talk about quiz (please take notes)

- What is ln?

- Work time for

Quiz Corrections, Review worksheet, Notecard

Jan 23-9:53 AM

Biggest Mistake I saw:

Canceling logs whenever you felt like it.

$$\log(x-1)-\log(2)=-1$$

$x-1-2=-1$

Can only cancel when:

* Same base

$$\log(x-1)=\log(2)$$

Jan 23-9:55 AM

Can you cancel logs?

No

$$\log_3(7)=\log_3(3x)+\log_3(4)$$

No

$$\log(2x)+1=\log(x-6)$$

$$\log_5(3x)=\log_7(4)$$

No

$$\log_5(x+1)=\log_5 7x$$

$x+1=7x$

Jan 23-9:57 AM

Properties of Expanding/Condensing

We always want our problems to end up looking like:

$\log_5(x-1)=7$

one log = #

Loop it

$5^7 = x-1$

$\log_4(3x)=\log_4(5+x)$

two logs with same base

Jan 23-9:55 AM

14. Properties of Expanding/Condensing

Add → Mult. arguments

$\log_b(15x)+\log_b(2y)=\log_b(30xy)$

Sub → divide argument

$\log_4(3x)-\log_4(5)=\log_4\frac{3x}{5}$

Coefficient → exponent

$4\log_5 2x=\log_5(2x)^4$

Jan 23-9:55 AM

Properties of Expanding/Condensing

1. $\log(x-1)-\log(2)=-1$

$x=$

$\log_{10}\frac{x-1}{2}=-1$

$10^{-1}=\frac{x-1}{2}$

$2\cdot 10^{-1}=x-1$

$2(.1)=x-1$

$.2=x-1$

$1.2=x$

Jan 23-9:55 AM

ALWAYS get the logarithm by itself!!!!

11.) $3+\log(17+x)=5$

$-3 \qquad -3$

$\log(17+x)=2$

$10^2=17+x$

$100=17+x$

$x=83$

Jan 23-10:05 AM

5) $-4 \cdot 5^{2x} = -20$

$\frac{-4}{-4} \quad \frac{-20}{-4}$

$5^{2x} = 5^{1}$

$2x = 1$

$x = \frac{1}{2}$

$5^5 \neq 5^4$

$5^3 \neq 5^7$

$5^6 = 5^6$

Jan 23-10:48 AM

What is ln?

ln stands for "natural logarithm".

This is just a fancy way to write a logarithm that has base "e" where e is a number like pi.

e is approximately 2.71828

Jan 23-10:07 AM

Homework: Quiz Corrections and Review worksheet.

Exit Slip: Write one thing that you did incorrectly on your quiz that you will NOT do again on your test. (i.e. one thing you learned)

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Jan 23-10:06 AM