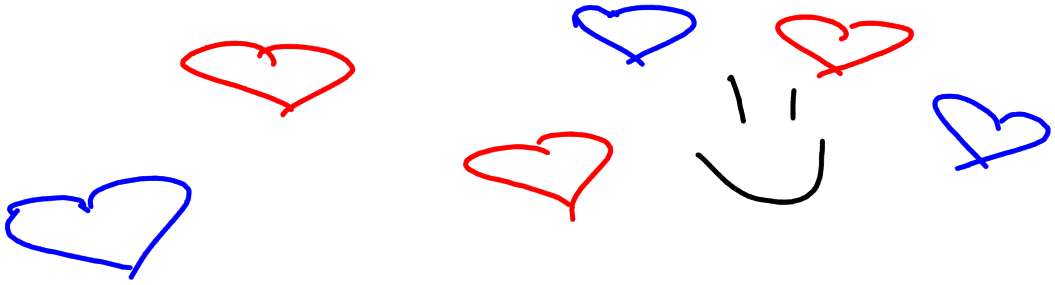
# Warm Up

We love you Mrs. Allender!

*WS-More Exciting Log Practice



# Questions from the homework?

*Check book work

*Maze and Gold ws

*Complete the solving DLT.

## What is on the test?

- ☆ Graphing growth and decay functions.
- ☆ Rewrite in exponential or logarithmic form.
- ☆ Expand or condense expressions.
- ☆ Evaluate expressions (mad minute quiz).
- ☆ Find the inverses.
- ☆ Solving exponential and logarithmic equations.
- ☆ Graph logarithmic functions.
- ☆ Context Problems.

# Context Problems

$A= P(1+\frac{r}{n})^{nt}$

$y=a(1+r)^t$

$y=a(1-r)^t$

$A=Pe^{rt}$

Orange/Yellow WS

# Context Problems

$A = P(1+\frac{r}{n})^{nt}$

$y=a(1+r)^t$

$y=a(1-r)^t$

Orange/Yellow WS $A=Pe^{rt}$

9) You deposit $700 in an account that pays 2.75% annual interest. How long does it take the balance to reach $2000 when it is compounded continuously?

$\frac{2000}{700} = \frac{700e^{.0275t}}{700}$

$\ln 2.9 = .0275t$

$\frac{\ln(2.9)}{.0275} = \frac{.0275t}{.0275}$

$38.7 = t$

Years

4) You buy a car that decreases in value 18% each year. If you paid $15,000 for it, how long will it take for the value to drop to $10,000?

(4) 35,000 ↓ 18% 4 years

$y = a(1-r)^t$

$y = 35,000(1-.18)^4$

$y = \$15,824.26$

$6 $10.50 7 years

$y = a(1+r)^t$

$\frac{10.50}{6} = \frac{6(1+r)^7}{6}$

$\sqrt[7]{1.75} = \sqrt[7]{(1+r)^7}$

$1.08 = 1 + r$

$-1 \quad -1$

$.08 = r$

8%

(8) $A = P\left(1 + \frac{r}{n}\right)^{nt}$

$n = 12$

$\frac{2000}{500} = \frac{500\left(1 + \frac{.0325}{12}\right)^{12t}}{500}$

$4 = \left(1 + \frac{.0325}{12}\right)^{12t}$

$4 = 1.0027^{12t}$

$1.0027^{12t} = 4$

$\log_{1.0027} 4 = 12t$ $\quad \frac{\log 4}{\log 1.0027} = 12t$

$\frac{514.14}{12} = \frac{12t}{12}$

$42.8 = t$

4 years

*Time to work on ws

Need Dry Erase Boards

Rewrite in exponential or logarithmic form.

A) $\log_2 32=5$

$2^5 = 32$

B) $3^{-3}=\frac{1}{27}$

$\log_3\left(\frac{1}{27}\right) = -3$

Expand or condense expressions.

A) $\log_4 \left(\frac{5x^2}{3y}\right)$

$\log_4 5 + 2\log_4 x - \log_4 3 - \log_4 y$

or

$-(\log_4 3 + \log_4 y)$

B) $(1/2)\log_3 16 - (4\log_3 x + \log_3 y)$

$\log_3 \frac{4}{x^4 y}$

# Evaluating Logs

Flash cards

Triangles

*Green Sage n scribe

# Solving Exponential and Logarithmic Equations

*ws's if time

Test next class!

*WS's

*Review WS