

Day 48 Warm Up

Pretest Logarithms

	A	B	C
1. $\log_3 27 =$	2	9	3
2. $\log_a (w+4) =$	$\frac{\log w+4}{a}$	$\frac{\log (w+4)}{\log a}$	$(w+4)^a$
3. $\log_7 x = b$	$7^b = x$	$7^x = b$	$b^7 = x$
4. $(-1)^{k+w} =$	$(-1)^{k/w}$	$(-1)^k (-1)^w$	$(k+w)^{-1}$
5. Exponential Decay	$y = \log_7 4$	$y = 7^x$	$y = 30 \left(\frac{1}{2}\right)^x$
6. $\frac{1}{2} \log x$	$\log \sqrt{x}$	$\log x^2$	$\log \frac{1}{2} x$
7. $\log 6 - \log y$	$\log \left(\frac{6}{y}\right)$	$\log(6y)$	$\log 6^y$
8. $19 \left(1 + \frac{.05}{4}\right)^{4 \cdot 7}$	19.967	20.726	26.903
9. $4x - 5 = 2x$	$x = \frac{7}{4}$	$x = \frac{5}{2}$	$x = \frac{2}{5}$
10. $\log_2 128$	$\log_5 5^7$	$\log_7 1$	$\log_4 3$

Follow  
Me  
Pretest Logarithms

1. Solve  $7^{5x} = 91$

$$\log_7 91 = 5x$$

$$\frac{\log 91}{\log 7} = 5x$$

$$\frac{2.318}{5} = \frac{5x}{5} \quad \boxed{x = .463}$$

Solve  $8^{6x} = 105$

2.  $115 = P \left(1 + \frac{.08}{5}\right)^{5 \cdot 3}$

$$\frac{115}{1.268} = \frac{P(1.268)}{1.268}$$

$$\boxed{90.69 = P}$$

$17,854 = P \left(1 + \frac{.07}{12}\right)^{12 \cdot 5}$

3.  $2 \log 3 + \log x = 4$

$$\log 3^2 + \log x = 4$$

$$\log 9 + \log x = 4$$

$$\log 9x = 4$$

$$10^4 = 9x$$

$$10000 = 9x$$

$$\frac{10000}{9} = x$$

$$\boxed{1111.11 = x}$$

$2 \log 5 + \log x = 4$