

Algebra 2 Common Core

Day 47 Logarithmic Word Problems

	A	B	C
1. $1 + \frac{.4}{5} =$	1.4	1.08	1.54
2. $4\% =$.4	.404	.04
3. $15,000(1 + \frac{.02}{3})$	15,100	15000.0067	15000.02
4. $(1 + \frac{.03}{6})^{8.6}$	48.24	6.2442	1.270
5. $3 \log_2 64$	6	18	9
6. $\log \sqrt{x}$	$\frac{1}{2} \log x$	$2 \log x$	$\log \frac{1}{2} x$
7. $7^{2x} = 7^3$	$x = \frac{3}{2}$	$x = \frac{2}{3}$	$x = 6$
8. $\sqrt{y} = 10$	$y = 5$	$y = 10$	$y = 100$
9. $x^2 = 16$	$x = 8$	$x = 4$	$x = 2$
10. $\log_7 x = 2$	$x = 14$	$x = 49$	$x = 3.5$

Follow Me CALCULATOR COMPUTATION

1. Calculate

$$15,000 \left(1 + \frac{.07}{4}\right)^{4(5)}$$

Type on calc.

$$15,000(1 + .07/4)^{\wedge}(4 \cdot 5)$$

21221.67

1. Calculate

$$7200 \left(1 + \frac{.06}{12}\right)^{12(3)}$$

Solve for "t"

$$\frac{8400}{6000} = \frac{6000(1 + \frac{.05}{4})^{4t}}{6000}$$

$$1.4 = \left(1 + \frac{.05}{4}\right)^{4t}$$

calculator
 $1 + \frac{.05}{4}$

$$1.4 = (1.0125)^{4t}$$

change to
logs

$$\log_{1.0125} 1.4 = 4t$$

$$\frac{\log 1.4}{\log 1.0125} = 4t$$

$$\frac{2.117}{4} = t$$

$$27.085 = \frac{4t}{4}$$

$$t = 6.79$$

$$9000 = 5100 \left(1 + \frac{.06}{4}\right)^{4t}$$