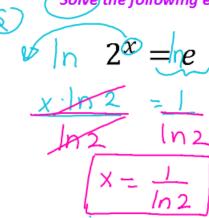
#### Wednesday 12/20 (late start)

Solve the following equation



lne = 1

$$log a \cdot b = log a + log b$$
 $log \frac{a}{b} = log a - log b$ 
 $log a^b = log a$ 
 $log a^b = log a$ 
 $log a^b = log a$ 
 $log b^b = y$ 
 $log b^b = y$ 
 $log b^b = y$ 
 $log b^b = y$ 

# Section 3.6 Mathematics of Finance p306

#### Compound Interest-Value of an Investment

Suppose a principal P is invested at a fixed annual interest rate r. The value of the investment after t years is

• 
$$A = P\left(1 + \frac{r}{k}\right)^{kt}$$
 when interest compounds k times per year,

•  $A = Pe^{rt}$  when interest compounds continuously.

### Sample Problem 1

• Find the amount accumulated after investing a principal of 10,000 for 5 years at an interest

rate of 7% compounded quarterly

(0,000

$$A = P(1 + K)$$

? Final Principal how many times amount how many times interest is compounded quarterly

 $A = 10,000(1 + 0.07)$ 

 Find the amount accumulated after investing a principal of 10000 for 5 years at an interest rate of 7% compounded annually

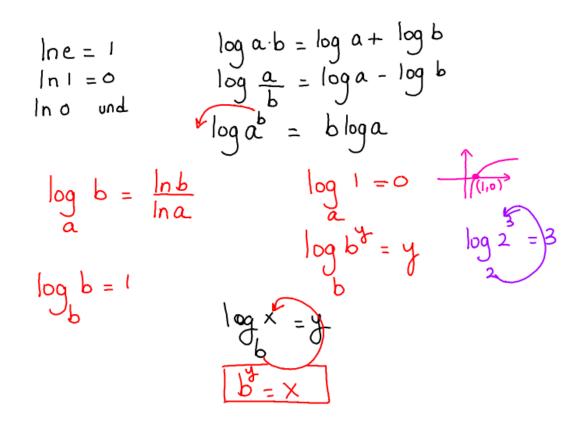
$$A = P(1 + \frac{r}{k})^{kt}$$

$$A = lo_{1000}(1 + \frac{0.07}{l})^{1.5}$$

$$A = 14025.5$$

 Find the amount accumulated after investing a principal of 10,000 for 5 years at an interest rate of 7% compounded continuously

$$A = Pe^{rt}$$
  
 $A = 10,000 e^{0.07(5)}$   
 $A = 14190.7$   
 $ever's$   
number.



## P310 #1-12

•Review Problems:

p314: 5-8, 19-22, 27-

34, 35-38, 43-50 (no

```
calc),
53,54,59,62,63,64,74,
75
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