If you deposit \$4000 into an account paying 6% annual interest compounded quarterly, how much money will be in the account after 5 years?

$$A = P\left(1 + \frac{r}{n}\right) + \frac{A = ?}{P = 4000} + \frac{n = 4}{4} = \frac{A = 4000}{(1 + \frac{0.06}{4})} = \frac{5}{387.42}$$

$$F = 690 \Rightarrow 0.06$$

If you deposit \$6500 into an account paying 8% annual interest compounded monthly, how much money will be in the account after 7 years?

$$A = P(1+\frac{r}{n})^{nt} A = ? \qquad N = 12 \qquad A = 6500 \left(1+\frac{08}{12}\right)^{(12)(7)} = \$ 11358.24$$
  

$$P = 6500 \qquad t = 7 \qquad r = 8\% \rightarrow .08$$

How much money would you need to deposit today at 5% annual interest compounded weekly to have \$20000 in the account after 9 years?

$$A = P(1 + \frac{\Gamma}{n})^{nt} A = 20000 \quad n = 52 \qquad 20000 = P(1 + \frac{005}{52})^{102}(4)$$

$$P = ? \qquad t = 9 \qquad 20000 = P(1 + \frac{005}{52})^{102}(4)$$

$$I = 5\%^{-1} \Gamma^{-1} \cdot D5 \qquad I.568 \qquad (1.568)$$

$$P \approx \text{(}12755.10$$

How much money would you need to deposit today at 9% annual interest compounded monthly to have \$12000 in the account after 6 years?

$$A = P(1+\frac{r}{h})^{h} A = 12000 \qquad n = 12 \qquad 12000 = P(1+\frac{r}{h})^{h} P = ? \qquad t = 6 \qquad 12000 = P(1+\frac{r}{h})^{h} P^{*}_{n} 7005, 25$$
  

$$P? \qquad P? \qquad P? \qquad 1.713 \qquad 1.713 \qquad P^{*}_{n} 7005, 25$$
  
How much money, invested at an interest rate of r% per year compounded

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continuously, will amount to A dollars after t years?  $\underline{A} = 6000$ , r = 6.1, t = 14.

$$A = Pe^{rE} \rightarrow 6000 = Pe^{(.061)14} \rightarrow P = $2554.25$$

You decide to invest \$8000 for 6 years and you have a choice between two accounts. The first pays 7% per year, compounded monthly. The second pays 6.85% per year, compounded continuously. Which is the better investment?

 Account 1
  $A = 8000(1 + \frac{.07}{12})^{(12)(6)}$  Account 2
 2.0685  $A = 8000e^{(1.0685)(6)}$ 
 $A = P(1 + \frac{.07}{.01})^{nt}$   $A = 8000e^{(1 + \frac{.07}{.12})^{(12)(6)}}$  Account 2
 2.0685  $A = 8000e^{(1.0685)(6)}$ 
 $A = P(1 + \frac{.07}{.01})^{nt}$   $A = 8000e^{(1 + \frac{.07}{.12})^{(12)(6)}}$  A = Pert r = 6.852  $A = 8000e^{(1.0685)(6)}$  

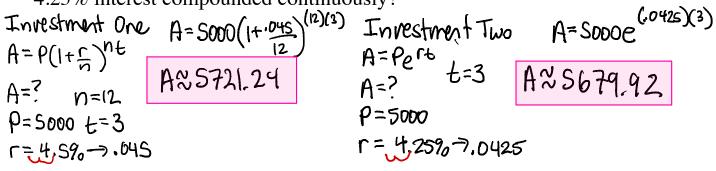
 A = ? r = 2.852  $A = 8000e^{(1.0685)(6)}$   $A = 8000e^{(1.0685)(6)}$  

 A = ? r = 6.852  $A = 8000e^{(1.0685)(6)}$   $A = 8000e^{(1.0685)(6)}$  

 A = ? r = 6.852  $A = 8000e^{(1.0685)(6)}$   $A = 8000e^{(1.0685)(6)}$  

 P = 8000 P = 8000 P = 8000  $A = 8000e^{(1.0685)(6)}$ 

You receive a \$5000 gift which you want to invest for 3 years. Should you choose an investment paying 4.5% interest compounded monthly or one paying 4.25% interest compounded continuously?



How much should you invest at 4.8% compounded continuously to have \$5000 in 2.5 years?

Write a formula for the amount if interest you would receive on any amount invested and compounded continuously.

$$A = Pe^{rt} - P$$
$$A = P(e^{rt} - I)$$