Precalculus Unit 5

Glencoe Resource pp. 12 – 13

Name _____

Banking Problems

1. A person deposits $3000 in an account that earns 6% interest compounded monthly.
   a. Write a function for the amount of money that will be in the account after *t* years.

   b. How much money will be in the account after 3 years?

   c. After how many months will there be $4000 in the account? (Note: Any fraction of a month should be considered a full month.)

2. A person deposits $5000 in an account which pays 8% interest compounded monthly.
   a. Write a function for the amount of money that will be in the account after *t* years.

   b. How much money will there be in the account after 5 years?

   c. After how many months will there be three times the amount of money than was deposited?

3. Willie invests $6000 in an account that has interest compounded monthly. What interest rate, to the nearest hundredth of a percent, does he need to earn if he wishes to double his money within 6 years?

4. Sue invests $10000 in an account that earns 5% interest compounded continuously.
   a. Write a function for the amount of money that will be in the account after t years.

   b. How much money will be in the account after 3 years?

   c. How many years will it take for there to be $12,000 in the account? (Round your answer to the nearest tenth of a year).

5. Roberto is a financial officer for a private university. He puts $20 million into an account that pays 9% interest compounded continuously.
   a. Write a function for the amount of money that will be in the account after t years.

   b. How much money will be in the account after 4 years?

   c. How many years will it take for there to be $30 million in the account? (Round your answer to the nearest tenth of a year).

6. Kim is putting $10,000 in a college fund. She would like to have $50,000 in the fund after 18 years. If interest is compounded continuously, what rate of interest (to the nearest hundredth of a percent) will she need to earn?