

6.2.1: Annuities and Sinking Funds (Exercises)

SECTION 6.2 PROBLEM SET: ANNUITIES AND SINKING FUNDS

Each of the following problems involves an annuity - a sequence of payments.

1) Find the future value of an annuity of \$200 per month for 5 years at 6% compounded monthly.	2) How much money should be deposited at the end of each month in an account paying 7.5% for it to amount to \$10,000 in 5 years?
3) At the end of each month Rita deposits \$300 in an account that pays 5%. What will the final amount be in 4 years?	4) Mr. Chang wants to retire in 10 years and can save \$650 every three months. If the interest rate is 7.8%, how much will he have (a) at the end of 5 years? (b) at the end of 10 years?
5) A firm needs to replace most of its machinery in five years at a cost of \$500,000. The company wishes to create a sinking fund to have this money available in five years. How much should the quarterly deposits be if the fund earns 8%?	6) Mrs. Brown needs \$5,000 in three years. If the interest rate is 9%, how much should she save at the end of each month to have that amount in three years?
7) A company has a \$120,000 note due in 4 years. How much should be deposited at the end of each quarter in a sinking fund to pay off the note in four years if the interest rate is 8%?	8) You are now 20 years of age and decide to save \$100 at the end of each month until you are 65. If the interest rate is 9.2%, how much money will you have when you are 65?
9) Is it better to receive \$400 at the beginning of each month for six years, or a lump sum of \$25,000 today if the interest rate is 7%? Explain.	10) To save money for a vacation, Jill decided to save \$125 at the beginning of each month for the next 8 months. If the interest rate is 7%, how much money will she have at the end of 8 months?
11) Mrs. Gill puts \$2200 at the end of each year in her IRA account which earns 9% per year. How much total money will she have in this account after 20 years?	12) If the inflation rate stays at 6% per year for the next five years, how much will the price be of a \$15,000 car in five years? How much must you save at the end of each month at an interest rate of 7.3% to buy that car in 5 years?

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