

## Consumer Math Review Packet #3

#1 If you deposit \$2,000 at the end of each year in an account that pays 6% interest per year, compounded monthly, what will be the balance in the account after you have made ten payments, assuming you make no withdrawals from the account?

**Solve by formula**

**Show TVM solution**

N = \_\_\_\_\_

I% = \_\_\_\_\_

PV = \_\_\_\_\_

PMT = \_\_\_\_\_

FV = \_\_\_\_\_

P/Y = \_\_\_\_\_

C/Y = \_\_\_\_\_

PMT: END or BEGIN

#2 A company estimates that it needs to have \$1,000,000 in five years. To have this money available in five years, a *sinking fund* is established by making equal monthly payments into an account paying 7.2% compounded monthly. What is the monthly payment?

Solve by formula

Show TVM solution

N = \_\_\_\_\_

I% = \_\_\_\_\_

PV = \_\_\_\_\_

PMT = \_\_\_\_\_

FV = \_\_\_\_\_

P/Y = \_\_\_\_\_

C/Y = \_\_\_\_\_

PMT: END or BEGIN

#3 A monthly deposit of \$150 is made into an annuity due that earns 5.25% compounded monthly. Due to a change in status, these deposits stop after 12 years, but the account continues to earn interest until the account is withdrawn after 25 years, after the last deposit was made. How much was in the account at then end? (Show and/or explain all your work. You may use formulas or TVM solver, but show your work either way.)

4. A 9-year **ordinary annuity** has a future value of \$10,000. The annual interest rate is 8 percent. What is the amount of each quarterly annuity payment?

5. Suppose you open an annuity due account into which you deposit \$200 semi-annually for 15 years. If the account pays 11% compounded semi-annually, how much will be in the account at the end of the 15 year period?

6. Find the amount to which \$500 will grow under each of the following conditions:

- a) 12 % compounded annually for 5 years
- b) 12% compounded semiannually for 5 years
- c) 12% compounded quarterly for 5 years
- d) 12% compounded monthly for 5 years

7. You are planning to buy a car worth \$20,000. Which of the two deals described below would you choose:

- a) The dealer offers to take 10% off the price and lend you the balance for 5 years at the regular financing rate (APR of 9%).
- or
- b) The dealer offers to lend you \$20,000 (with no discount) for 5 years at a special financing rate of 3%.