

Name \_\_\_\_\_

### Compound Interest Practice Worksheet

**Directions:** Use the formula  $A = P(1 + \frac{r}{n})^{nt}$  where  $A$  represents the total amount,  $P$  represents the principal,  $r$  represents the interest rate as a decimal,  $n$  represents the number of times per year interest is compounded, and  $t$  represents the time in years to answer the questions below.

- 1) A coin had a value of \$1.17 in 1995. Its value has been increasing at 9% per year. What is the value after 5 years?
  
  
  
  
  
  
  
  
  
  
- 2) Gina deposited \$1500 in an account that pays 4% interest compounded quarterly. What will the balance be in 2 years?
  
  
  
  
  
  
  
  
  
  
- 3) The Garcias have \$12,000 in a savings account. The bank pays 3.5% interest on savings accounts, compounded monthly. Find the total balance after three years.
  
  
  
  
  
  
  
  
  
  
- 4) Determine the amount of **interest** earned on a \$2500 investment if it is invested at 5.25% annual interest compounded monthly for four years.
  
  
  
  
  
  
  
  
  
  
- 5) Determine the amount of **interest** earned on a \$100,000 investment if it is invested at 5.2% annual interest compounded quarterly for 12 years.

- 6) The Fresh and Green Company has a savings plan for employees. If an employee makes an initial deposit of \$1000, the company pays 8% interest compounded quarterly. If an employee withdraws the money after five years, how much is in the account?
  
- 7) Using the information in the question above, find the **interest** earned if the money is withdrawn after 35 years.
  
- 8) Mr. and Mrs. Boyce bought a house for \$96,000 in 1995. Real estate values in their area increase approximately 4% each year. What was the value of the house in 2007?
  
- 9) Determine the amount of **interest** earned if \$500 is invested at an interest rate of 4.25% compounded quarterly for 12 years.
  
- 10) Determine the final account balance of an investment if \$300 is invested at an interest rate of 6.75% compounded semiannually for 20 years.
  
- 11) The Greens bought a condo for \$110,000 in 2005. If its value appreciates at 6% per year, what will the value be in 2012?

12) Hans opens a savings account by depositing \$1200 in an account that earns 3% interest compounded weekly. How much will his investment be worth in 10 years? Assume there are exactly 52 weeks in a year and round your answer to the nearest cent.

13) First National Bank is offering 4.25% interest on an account. Susan makes an initial deposit of \$20,000. Calculate the **interest** earned over 20 years if the bank...

a) Calculates the interest using simple interest ( $I = Prt$ ).

b) Calculates the interest using compound interest compounded annually.

c) Calculates the interest using compound interest compounded quarterly.

d) Calculates the interest using compound interest compounded monthly.