

Assignment: G9

- (1) Five of the 16 students in this class had perfect attendance as of Monday. If one of those five students misses class today, what would be the percent change in the portion of students with perfect attendance?
  
- (2) Five of the 16 students in this class had perfect attendance as of Monday. If a new student was to add the class today and all 17 students showed up, what would be the percent change in the portion of students with perfect attendance?
  
- (3) What is the equivalent percentage to each of these?
  - a. 25% off, then 40% markup
  - b. 50% markup, then 30% reduction
  - c. 60% drop, then 40% increase
  - d. 50% increase, then 50% decrease
  - e. 50% decrease, then 50% increase
  - f. 40% increase, then 20% decrease, then another 20% decrease
  
- (4) A friend loans you \$3500 to buy a car and asks that you pay her back in 3 years with 10% simple interest. How much do you pay her in order to keep her as a friend?
  
- (5) You take the \$3500 and instead of buying the car, you loan the entire \$3500 to your cousin and you ask him to pay you back \$4000 after two-and-a-half years.
  - a. What is the simple interest rate that you used in the loan to your cousin?
  - b. How much did you make (or lose) by doing this?
  
- (6) What is the present value of \$50,000 at 4.5% simple interest over 10 years?
  
- (7) What is the present value of \$50,000 at 4.5% simple interest over 10 years?

- (8) Suppose that you deposit \$3750 into a savings account that pays 2.4% annual interest.
- What do you expect your balance to be at the end of the year?
  - Suppose that you reinvest the balance computed in part (a) back into the same type of account after one year. What is your balance after a second year?
  - Continuing to do this every year, how much will you have after a total of 10 years?
- (9) Suppose that rather than computing your interest annually as in problem (1), the bank decides to split the 2.4% into 12 equal portions (0.2% each) and compute your interest at the end of each month. Would this be a better scenario for you after 10 years? Show why or why not.
- (10) If you want to have \$175,000 available for your kid's college tuition 25 years from now, how much would need to be invested now at 5.325% interest compounded semi-monthly?
- (11) For each of the comparisons below, circle the better investment:
- 6.0% APR compounded monthly v. 6.0% compounded weekly.
  - 6.0% APR compounded monthly v. 5.5% compounded monthly.
  - 6.0% APR compounded monthly v. 5.5% compounded weekly.
  - 5.5% APR compounded monthly v. 6.0% compounded weekly.