

Show all work including what values you plug into formulas

- 1.) Bryan invests \$500 in an account earning 4% interest that compounds annually. If he makes no additional deposits or withdraws, how much will be in the account:
  - a. After 10 years?
  - b. After 15 years?
  - c. After 20 years?
  - d. After 25 years?
  - e. About how long would it take to double his \$500 investment?
  
- 2.) Lori buys a \$1500 certificate of deposit (CD) that earns 6% interest that compounds monthly. How much will the CD be worth in:
  - a. 5 years?
  - b. 10 years?
  - c. 18 months?
  
- 3.) Lori gets an offer from another bank that is also paying 6% on CD's, but is compounding interest daily. How much will the \$1500 CD be worth in:
  - a. 5 years?
  - b. 10 years?
  - c. 18 months?
  
- 4.) You borrow \$10,000 at 5% interest compounded weekly for tuition. While you do not have to make payments for the 5 years that you are in school, the interest is compounding every week. What is your loan balance after the 5 year grace period (if you've made no payments)?

- 5.) Create an Excel spreadsheet comparing simple and interest compounded yearly for an investment of \$1200 over 30 years with an APR of 8%.
- Use the directions from class to create your spreadsheet showing both types of interest for all 30 years.
  - Use the data from the spreadsheet to create a graphic (scatterplot) comparing the two types of interest. **Write a paragraph making your comparisons and observations.**
- 6.) Perry has an opportunity to put \$12,000 into an investment with an APR of 5.25%. How long will it take his investment to double? \_\_\_\_\_ to quadruple? \_\_\_\_\_
- 7.) The average population growth rate for whitetail deer is 0.35. Hunting laws are set to limit the time allowed for hunting deer with a goal of achieving about a 35% mortality rate on deer to keep the population in check. Years with a higher than 35% mortality will result in an overall decline in the deer population while years with a lower than 35% mortality rate will result in an increased population.
- If there were no hunting of whitetail deer allowed, how long would it take the population of deer to double? \_\_\_\_\_ to quadruple?  
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  - If the growth rate exceeds the mortality rate, and the net effect were a 10% growth rate, how long would it take the population to double? \_\_\_\_\_
- 8.) If the world's population growth rate continues to be 1.17%, how long before the population doubles?
- 9.) Research the population growth rate for the U.S. and estimate how long it will take the population to double at that rate. **Write a short paragraph explaining your process and results. Check your results for reasonableness.**