

Senior Consumer Compound Interest Excel Worksheet**Instructions:**

- Open the excel file “Compound Interest Spreadsheet” on **kukramer.org** under *Senior Consumer Files*
- Right click and “Save As” - “YourNameHr.# Compound Interest Spreadsheet” (at the end, send me your file)
- This file will be used to quickly find simple and compound interest and calculate the advantages of investing in different types of accounts.
- On the top row, label the columns in the following order: “Principal – P”, “Rate – r”, “Compound # – n”, “Time – t”, “Amount - $P(1+(r/n))^{(n*t)}$ ”, “Interest Earned - $I=A-P$ ”, “Simple Interest – Prt”, and “Advantage”
- “Principal – P” – Highlight this column and change the formatting to “Currency”
- “Rate – r” – Highlight this column and change the formatting to “Percentage”
- “Compound # – n” and “Time – t” – these need no other formatting
- “Amount” – Using the formula provided for compound interest, enter the equation into the first cell. Make sure to start the equation with an “=” and to select each cell that corresponds to each piece of the formula. Also, use the “*” for multiplication, “/” for division and put “()” when needed.
- “Interest Earned - $I=A-P$ ” – Using the formula provided for interest earned, enter the equation into the first cell.
- “Simple Interest – Prt” – Using the formula provided for simple interest, enter the equation into the first cell.
- “Advantage” – Subtract the “Simple Interest” cell from the “Interest Earned” cell.
- Highlight the first row from “Principal – P” to “Advantage” and, using the square in the lower right hand corner, drag down and populate the 15 rows of questions.

Problems:

#1. You want to invest \$5000 at 5% interest compounded semiannually for 5 years.

How much interest is earned? _____

#2. You want to invest \$2000 compounded semi-quarterly for 10 years @ 5.5%.

What is the advantage of compound interest over simple interest? _____

#3-#5. You want to invest \$10000 for 8 years and have three options (use #'s 2-5). Option 1, 3.75% compounded daily; Option 2, 4% compounded monthly; Option 3, 4.25% compounded quarterly.

What is the best option?(circle one) Option 1 Option 2 Option 3

Name: _____ Date: _____ Hr: _____

#6-#15. You have \$1000 to invest @ 5.5% for 20 years. Use #'s 6-15 to find the amount of interest earned when your investment is compounded:

(#6) yearly _____

(#7) semiannually _____

(#8) quarterly _____

(#9) semi-quarterly _____

(#10) monthly _____

(#11) weekly _____

(#12) daily _____

(#13) compounded every hour _____

(#14) compounded every minute _____

(#15) compounded every second _____

How much more money did you earn when compounded monthly than yearly? _____

How much more money did you earn in #15 than in #14? _____

Extra Credit: How much do you think you'd earn if your investment was compounded continuously? Why?