

Foundations 12 – Simple and Compound Interest

Homework: Lesson #1 on Pg. 507 #1-7

Ex 1

You have \$100 and you decide to invest it at 10% per year for 5 years. How much money do you have at the end? (*Use a calculator or a spreadsheet*)

Simple Interest

Compound Interest

Present Value, PV (Principal, P): _____

Interest (I): _____

Future Value, FV (Final Amount, A): _____ + _____

Simple Interest

$$I = PV \cdot r \cdot n$$

$$FV = PV + I$$

Compound Interest

$$FV = PV (1 + r)^n$$

$$I = FV - PV$$

r = _____ (_____)

n = _____

Ex 2

If you invest \$4500 at 3.2% per year for 7 years, how much interest will you earn and what will be the future value of your investment using:

Simple Interest

Compound Interest

Ex 3

You decide to invest \$650 in a savings account at 4.9% per year. Using a spreadsheet, calculate the value of your investment after each year for 30 years using both simple and compound interest.

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Create a chart in Excel for your data, then draw a rough sketch below.  
Write the equation for each of your graphs and label them on your sketch.



**Notice:** Simple interest is the same or \_\_\_\_\_ compound interest.

**Ex 4**

But what if I want to save up for something (like a sweet motorcycle that costs \$15,000) and I know how much I can invest (say \$3000) and what interest rate I can get (6.7% compounded annually). How long would it take me to afford my motorcycle? (We can estimate this using a spreadsheet)

**Ex 5**

And what if I want my motorcycle in 5 years (\$15,000, 6.7% interest compounded annually). How much would I have to put into my savings to get it by the end of the 5 years?

(All we can do right now is guess and check, but next time we will learn a better way!)