Math 9 – Simple and Compound Interest

<u>Simple Interest</u> $I = P \cdot r \cdot t$	A = _____
<u>Compound Interest</u> $A =$	r = _____ P = _____ I = _____ (_____) t = _____ (_____)

Fry invested 93 cents over 1000 years at 2.25%. How much money would he have at the end using:

    a) Simple Interest?   b) Compound Interest?

What if I saved my iPod class money ($380) and invested it at 10% interest for 50 years (until I'm 64) using:

    b) Simple Interest?   b) Compound Interest?

For the same interest rate and the same amount of time, compound interest will always give _____ money than simple interest. This is why banks and credit cards use _____ interest.

The longer the time, the _____ the difference becomes.

1. If I borrow $100 for 3 years at an interest rate of 7.2%, what is the **<u>Final Amount</u>**?	
a) Simple Interest	b) Compound Interest

2. If I invest $700 for 8 years at an interest rate of 3.2%, what is the **<u>Final Amount?</u>**	
a) Simple Interest	b) Compound Interest

3. If I invest $3500 for 1 year at an interest rate of 5.6%, what is the **Final Amount**?	
a) Simple Interest	b) Compound Interest

4. If I borrow $6000 from a bank for 50 years at an interest rate of 4.9%, what is the **Final Amount**?	
a) Simple Interest	b) Compound Interest

5. If I invest $1 in a savings account for 1000 years at 1.5%, what is the **Final Amount**?	
a) Simple Interest	b) Compound Interest

6. Compare the values for each calculation:
a) For which questions are the two types of interest **close** in value?
b) For which questions are the two types of interest **very different** in value?
c) Are there any questions where they give the **same** value?

BONUS: I invest $500 for 7 years at an interest rate of 3%. Then I take that money and invest it at 5% for 10 more years. What is the **Final Amount** using:
a) simple interest?
b) compound interest?

SUPER BONUS: If I invest $100 at an interest rate of 6% using simple interest, then open another account and invest $50 at 6% using compound interest, when will the two accounts have the same amount of money? (Estimate to the nearest year)

Answers
1. a) $1121.60   b) $1123.19   3. a) 3696.00   b) $3696.00   5. a) $16.00   b) $2,924,436.86   Bonus: a) $907.50   b) $1001.67
2. a) $879.20   b) $900.61   4. a) $20,700.00   b) $65,603.30   6. a) #1, #2   b) #4, #5   c) #3