

Name: _____

Simple and Compound Interest Worksheet

In problems 1-3, compare the amount you have if the money were invested at simple interest or invested so that it is compounded annually.

1. \$5,000 at 10% for 5 years

2. \$2,000 at 12% for 3 years

3. \$1,000 at 14% for 30 years

In problems 4-6, compare the amount of simple interest and the interest if the investment is compounded annually.

4. \$1,000 at 8% for 5 years

5. \$2,000 at 12% for 3 years

6. \$5,000 at 12% for 20 years

Fill in the blanks for problems 7-12.

Compounding Period (n)	Principal (P)	Yearly rate (r)	Time (t)	Period rate (r/m)	Number of periods, (mt)	Total Amount (A)	Total Interest (I)
7. Annually	\$1,000	9%	5 years				
8. Semiannually	\$1,000	9%	5 years				
9. Quarterly	\$500	8%	3 years				
10. Monthly	\$350	12%	5 years				
11. Quarterly	\$800	12%	90 days				
12. Quarterly	\$1,250	16%	450 days				

Answer the questions in problems 13-15. A calculator with an exponent key is required for these problems.

13. What is the future amount of \$12,000 invested for 5 years at 14% compounded monthly?
14. What is the future amount of \$800 invested for 1 year at 20% compounded daily?
15. If \$5,000 is compounded quarterly at 5½ % for 12 years, what is the total interest received at the end of that time?

The **inflation rate** is an increase in currency that is in circulation (the cash and coins that are out floating around the U.S.). When the inflation rate increases the value of the dollar decreases, therefore prices go up!

A person wants to know what the future cost of items will be, only accounting for inflation. (ex) The inflation rate in 1990 was about 6%. (NOTE** The only problem with inflation is that the rate fluxuates from year to year, so you must realize this is an ESTIMATE.) You just use the compound interest formula.

$$A = P(1 + r/m)m^t$$

$$A = P(1 + r)^t \quad \text{Note: This is the actually formula due to } n \text{ being equal to } 1.$$

$$A = 30,000(1.06)^{10}$$

$$A = \$53,725.43 \quad \text{WOW!!! What a difference!!!}$$

In problems 16-20, calculate the expected price in the year 2015 if you assume that there was a consistent 5% inflation rate and use the given 1988 price. Answers should be rounded to the nearest penny.

16. Median Salary, \$27,225
17. Gallon of gas, \$1.08
18. Dozen Eggs, \$0.89
19. Movie Admission, \$3.50
20. McDonalds Hamburger, \$0.62