

8.1: Simple and Compound Interest

Chapter 8: Financial Mathematics

MCR3U1

Simple Interest

Simple Interest (I) - interest calculated only on the original principal using the formula:

$I = Prt$ where:

I is the interest in dollars

P is the principal in dollars

r is the annual rate of interest, as a decimal

t is the time, in years

Principal (P) - amount of money initially invested or borrowed

Amount (A) - the value of an investment or loan at the end of a time period

- can be calculated using the formula $A = P(1 + rt)$ or $A = P + Prt$

Example 1: Complete the following chart for an investment of \$1000 at a rate of 5% p.a. (per annum) for 5 years.

# of years	Original Amt.	Interest Rate	Simple Interest (\$)	Amount(\$)
1	1000	0.05	50	1050
2	1000	0.05		
3	1000	0.05		
4	1000	0.05		
5	1000	0.05		

After each year, the Amount increases by \$50. Since this is a constant amount, this is an example of an _____ sequence.

Example 2: Determine the interest on \$715 at an annual rate of 6.2% for 10 months.

Example 3: How many days will \$800 have to be invested at 7% annually to earn \$13.50?