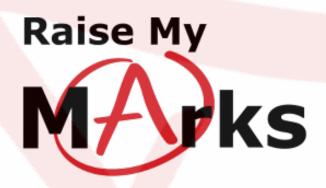
Simple Interest



RaiseMyMarks.com

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What is Simple Interest?

Suppose you put an amount of money inn the bank. Let's call this initial amount P. We are told that after t years your month P that you deposited into the will earn interest each year. That yearly or *annual* amount of interest that your money earns is denoted by r or r is the *interest rate*. This value is usually expressed as a decimal value or as a percentage. e.g. 0.06 or 6%. Our goal is tro try and figure out how much money you will earn after t years and what you total amount will be after those t years. Let's start by defining a few values with variables.

[Variable	Name	Description
[Р	Principal	This is the orginal amount you deposited
			into the bank or put into the investment
	r	anual interest rate	This is the rate at which your
			money will "grow" per year.
	t	time in years	This is the amount of time that you
			have invested your money P for.
	Ι	interest earned	This is the amount of interest you
			earned over the time period t .
	А	total amount	This is the total amount you have,
			P + I, after the investment period t.

The relationship between these variables is,

$$I = Prt \text{ and}$$
(1)

$$A = P + I = P + Prt$$
(2)

Now we have the interest earned over that time period t,

I = Prt

and the total amount of money you have after t years is,

A = P + I

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Simple Interest - Exercises

Exercises

- 1. Find the principal when,
 - a) I = \$192, r = 6%/year, t = 4 years.
 - b) I = \$20, r = 2%/year, t = 20 months.
- 2. Find the rate when,
 - a) P = \$300, t = 2.5 years, I = \$140
 - b) P = \$9600, t = 3month, Is = \$72
- 3. Find the time when,
 - a) P = \$500, r = 7.5%, I = \$150
 - b) P = \$700, r = 18%, I = \$78
- 4. Find the interest an total amount given,
 - a) P = \$640, r = 12.5%/year, t = 6months
 - b) P = \$10000, r = 18%/year, t = 7years
- 5. What sum of money will earn an interest of \$162 in 3 years at 12 % per annum?
- 6. At what rate per year will a sum of money double itself in 6 years?