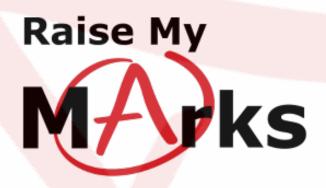
Simple Interest



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 = \$250, r = 1.75%/year, t = 10 years.
 - b) I = \$1250, r = 5.5%/year, t = 5 years.
- 2. Find the rate when,
 - a) P = \$10000, t = 4years, I = \$1750
 - b) P = \$500, t = 5 years, I = \$50
- 3. Find the time when,
 - a) P = \$2000, r = 3.5%, I = \$700
 - b) P = \$3500, r = 1.75%, I = \$306.25
- 4. Find the interest an total amount given,
 - a) P = \$3075, r = 8.15%/year, t = 6years
 - b) P = \$5000, r = 6.25%/year, t = 5years
- 5. In what time will a sum of money double itself at 5 %/ year?
- 6. \$4000 were lent each to Ron and Rob at 15% / year for 3/5 years and 5 years respectively. Find the differenc ein the interest paid to them.

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