INTEREST

Simple Interest: $I = (Prn)/100$ where
I = Simple Interest
P = Principal,
r = rate per interest period (usually a year),
n = number of interest periods.

Example: What will be the value of $2000 invested for 5 years at 6% p.a. simple interest?

$I = (Prn)/100 = 2000 \times 6 \times 5/100 = 600$

Amount = Principal + Interest = $2000 + $600 = $2600

Exercises 1:

Q.1. If I invest $600 at a simple interest rate of 7% p.a., how much will I have in the account after 10 years?

Q.2. Ryan invested $50 in a bank account that paid 4% p.a. simple interest. How much would it be worth after 9 months?

Q.3. What simple interest rate would be required to double the amount of the investment in 20 years?

Compound Interest: $A = P(1 + \dfrac{r}{100})^n$ where
A = final amount,
P = Principal,
r = rate per interest period (usually a year),
n = number of interest periods.

Compound interest is where you earn interest on your interest.

Example: What will be the value of $2000 invested for 5 years at 6% p.a. compound interest?

$A = P(1 + \dfrac{r}{100})^n = 2000(1 + 6/100)^5 = 2000(1.06)^5 = \$2676.45$

Exercises 2:

Q.1. If I invest $600 at a compound interest rate of 7% p.a., how much will I have in the account after 10 years?

Q.2. Josh invested $50 in a bank account that paid 4% p.a. compound interest. How much would it be worth after 5 years?

Q.3. Chris invested $5000 for 6 years at 6% p.a. compound interest. What was the final value of the account?

Q.4. Karen invested $5000 for 6 years in an account where the 6% p.a. interest was compounded every 6 months. What was the final value of the account?

Answers:

Ex.1 Simple Interest:	Q.1. = $1020	Q.2. = $51.50	Q.3. = 5%
Ex. 2. Compound Interest:	Q.1. = $1180.29	Q.2. = $60.83	
	Q.3. = $7092.60	Q.4. = $7128.80	