Simple Interest: 7 Important Shortcuts Explained

When a person borrows some money from another person then the borrower has to pay some extra money for the use of that money to the lender. This extra money is called Interest.In other words, the amount charged by lender for giving his money for a specific amount of time is called Interest.

The amount of money borrowed is known as Principle. Total of Interest and Principle is known as Total Amount.

Amount = Principle + Interest.

The borrower has to pay interest according to some percent of principle for the fixed period of time. This percentage is known as Interest Rate.This fixed period may be a year, six months, three months or a month and correspondingly the rate of interest is charged annually, half yearly, quarterly or monthly.

Some Basic Formulas

If A = Amount P = Principle
I = Interest T = Time in years
R = Interest Rate Per Year, then

* Amount = Principle + Interest
  A = P + I
* I = (P*T*R)/100
* P= (I*100)/(T*R)
* T= (I*100)/(P*R)
* R= (I*100)/(P*T)

Trick-1: If a sum of money become "X" times in "T" years, at Simple Interest, then the rate of interest "R%" is given by:

R% = 100(X-1)/T

Ex : if a sum of money becomes thrice in 20 years,at simple interest, then the rate of interest is ?

a. 20 % b. 10 % c. 25% d. 15 %

Sol : R% = (100*(3-1))/20 = 10 %

Trick-2: On a sum of money the rate of interest is R1% Per Annum for the first T1 years, R2% Per Annum for the next T2 years, and R3% Per Annum for the next years beyond the first (T1+T2) Years. If the interest obtained in T3 Years is Rs. I. Then, the sum is

UPIORBANK.C

P = (I * 100) / [(R1*T1)+(R2*T2)+
(R3*(T3-T2-T1)]

Ex : On a sum of money the rate of interest is 5% Per Annum for the first 3 years, 6% Per Annum for the next 4 years, and 8% Per Annum for the next years beyond the first 7 Years. If the interest obtained in 12 Years is Rs. 3,950, Find the Sum?

Sol: 5% X 3 + 6% X 4 + 8% X 5 = 15% + 24% + 40% = 79%

=> (79/100) P = 3950

P = (39500/79) = 5000

Trick-3: If sum becomes S1 in T years and S2 in T+1 years.then, Rate of interest is

R = [(S2 - S1)*100]/[S1-(S2-S1)*T]

Here, I = S2-S1 ,P = S1-(S2-S1)

Ex: if sum becomes 1200 in 2 years and 1400 in 3 years.so, the Rate of interest is ?

a. 10 b. 15 c. 20 d. 12.5

Sol: = [(1400-1200)*100]/(1000*2)

R = 10%

Trick-4: If R1 is fallen to R2.then, income dimensed by D.then,principal becomes

= (D * 100)/(R1 - R2)

Ex : if Rate of interest fallen from 7% to 5%. Due to fall of R,income dimensed by 50.the principal is ?

a. 2500 b. 5000 c. 1000 d. 4000

Sol: = (50*100)/(7-5) = 2500

Trick-5: If sum becomes S1 in T1 years and S2 in T2 years.then, Rate of interest is

=[(S2-S1)*100]/[[(T2-T1)*S1-T1*(S2-S1)]*T1]

Trick-6: P is given in two parts and interest is same.part-I is given for R1 for T1 years, part-II is given for R2 for T2 years,the

part-I amount is

= (P*T2*R2)/[(T1*R1)+(T2*R2)]

Ex: 10000 is given in two parts and interest is same.part-I is given for 2% Rate of interest for 7 years and part-II is given for 7% Rate of interest for 3 years.then,part-I principal is ?

Unique Publication UPI QPBANK.C

a.4000 b.5000 c.7000 d.6000
Sol: [10000*7*3]/[(7*2)+(7*3)] =6000

Trick-7: P is given in two parts and Simple interest is I .part-I is given for R1 for T1 years, part-II is given for R2 for T2 years,then,

part-I amount is

=[(I*100)-(P*T2*R2)]/
[(T1*R1)-(T2*R2)]

Ex: 10000 is given in two parts and interest is 2000.part-I is given for 3% Rate of interest for 7 years and part-II is given for 7% Rate of interest for 3 years.then,part-I principal is ?

a.4000 b.5571.5 c.8571.5 d.6000

Sol: [(2000*100) - (10000*7*2)]/[(7*3)-(7*2)] = 60000/7 = 8571.5

UPIQPBANK.C