# Simple Interest

Simple Interest

Principle x Rate of Interest x Time

$\frac{PRT}{100}$

$\% = \frac{1}{100}$

for half year

$1y = 2T$

$\frac{1}{2} = T = \frac{P\left(\frac{R}{2}\right)2T}{100}$

for month

$\frac{P\left(\frac{R}{12}\right)12T}{100}$

for Quarter

$\frac{P\left(\frac{R}{4}\right)4T}{100}$

1. An amount of Rs 6500 at Simple Quaterly interest of 8% will yield how much in 2 and half yr

$\frac{6500 \times 8 \times 2.5 \times 4}{100 \times 4}$

S.I = 1300

Amt + SI = 7800

2. An amount becomes 7 times in 15 yrs. In how many years will the same amount in lotting The rate of Interest remain Same

Amt = 7P = P + SI  A = 10P = SI + P

SI = 6P  9P = $\frac{PRT}{100}$

$\frac{PRT}{100} = 6P$  $\frac{900}{40} = T$

$R = \frac{600}{T}$  $R = 40\%$  $T = 22.5$ yrs

3) A Sum becomes Rs 3000 at rate of 12% per annum The Same rate becomes Rs 3300 at rate of 15% per annum. Find Sum & duration.

$P \xrightarrow{12} 3000$ — (1)

$P \xrightarrow{15} 3300$

$Amt_2 - Amt_1 = 300$

$P + SI_2 - P + SI_1 = 300$

$SI_2 - SI_1 = 300$

$\frac{P \times 15 \times T}{100} - \frac{P \times 12 \times T}{100} = 300$

$\frac{50}{9}$ yrs

$P_T = 10,000$

$SI_1 = \frac{10,000 \times 12}{100} = 1200$ Rs.

$Amt_1 = 3000 = P + 1200$

$P = 1800$ Rs

$T = \frac{10,000}{1800} = \frac{100}{18}$

4)

5)

4) A man got Rs 130 less as Simple Interest, when he invested Rs 2000 for 4 years as compared to investing Rs 2250 for same duration. What is rate of interest

$P = 2000$ $\quad P = 2250$
$R = ?$ $\quad T = 4$
$T = 4$ $\quad R_2$

$A = P + SI$

$SI_2 = SI_1 + 130$

$SI_2 - SI_1 = 130$

$\frac{2250 \times R \times 4}{100} - \frac{2000 \times R \times 4}{100} = 130$

$R = \frac{13000}{250 \times 4} = 13\%$

5) 1/5 Part of an amount was given at 3% SI, 1/3 part was given at 5% SI, 2/5 parts at 9% SI and remaining part at 11% SI. The total received was 297. How much amount was given originally

$\frac{P}{5}$ $\frac{P}{3}$ $\frac{2P}{9}$ $\quad P - \frac{P}{15} - \frac{P}{3} - \frac{2P}{45}$

3% 5% 9

$\frac{P}{15} \rightarrow 11\%$

$SI = SI_1 + SI_2 + \dots + SI$

$297 = \frac{P/5 \times 1 \times 3}{100} + \frac{P}{3} \times \frac{1}{100} \times 5 + \frac{2P}{3} \times \frac{1}{100} \times 9 + \frac{P}{15} \times \frac{1}{100} \times 11$

$RS = 4500$

6) Rs 20400 was divided in 2 parts and then invested. one part has 6.25% for 8 yrs the same as other for 7% at 5 yrs. what is the value of smaller part

$$\begin{array}{c} 20400 \\ / \quad \backslash \\ x \qquad 20400-x \end{array}$$

$$\frac{x \times 6.25 \times 8}{100} = \frac{(20400-x) \times 7 \times 5}{100}$$

$$10x = 20400 \times 7 - 7x$$

$$x = 5400$$

7) If SI on a certain sum for 15 months at $7\frac{1}{2}\%$ per annum exceeds the SI on same sum for 8 months at $12\frac{1}{2}\%$ per annum by Rs. 32.50

$$SI_1 - SI_2 = 32.50$$

$$\frac{P \times 7.5 \times 15}{100 \times 12} - \frac{P \times 12.5 \times 8}{100 \times 12} = 32.50$$

x yrs

$$\frac{45P}{1200} - \frac{40P}{1200} = 13$$

$$P = 3120 \text{ Rs}$$

8) If simple interest for 2 years for a sum is Rs 600 and CI for same sum 6ST rate of interest will be the same for forty

SI = 300 + 300 = 600

CI = 300 + 345 = 645

P + 300

$$45 = \frac{300 \times 1 \times r}{100} = R = 15\%$$

9) Aman invest RS 8000 at some rate of Interest being simple interest the money double in 5 years. Ray see this and invest RS 6250 for 3 years at some rate of interest. find :-

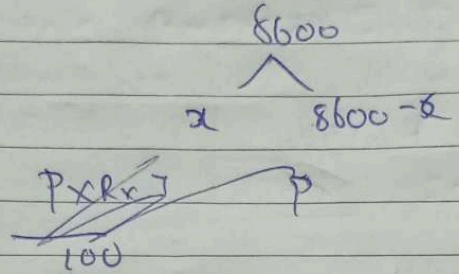
SI = 8000

$$\frac{8000 \times R \times 5}{100} = 6250$$

R = 20%.

$$\frac{6250 \times 20 \times 3}{100} = SI = 5750$$

10) Aman got a salary of Rs 8600. The salary was invested by him in 2 parts. find the difference between the two parts of his salary if 1st part he got simple Interest at 15% per annum 4yrs. which was same as the second part invested at 20% for 3 year




$$\frac{M \times 15 \times 4}{100} = \frac{(8600 - M) \times 20 \times 3}{100}$$

M = 4300 Rs ①

4300 Rs ②

11) Ram gets Rs 2600 for 2000 Rs in 3 years at some SI. had he invested in other places where rate of SI is 3% more than current rate, how much ram would have got

2000 Rs → 2600 = A, A = P + SI

$SI = 2600 - 2000 = 600 \text{ Rs} = \frac{P \times R \times T}{100}$

R = 10%.

$Amt = P + SI_2 = 2000 + \frac{1000 \times 9 \times 5}{100}$

Rs 2900 //

12.) Raman paid Rs 11400 as interest after 9 years. He had borrowed some money at 6% for 2 yrs, 9% for 3 years and 14% for rest. How much did he borrow

| 6% | 9% | 14% |
|---|---|---|
| 2 yrs | 3 yrs | 4 yrs |

$SI = SI_1 + SI_2 + SI_3$

$11400 = \frac{P \times 2 \times 6}{100} + \frac{P \times 9 \times 3}{100} + \frac{P \times 14 \times 4}{100}$

$P = \frac{11400 \times 100}{95} = 12000$ Rs

13.) Suresh for 2 years invested Rs 500 in SBI he also invested Rs 300 in ICICI for 4 yrs he received 220 as simple interest. What must have been the rate

$220 = \frac{500 \times 2 \times R}{100} + \frac{300 \times 4 \times R}{100}$

$R = 10\%$