



Simple Interest

Exercise-1

1. (a) Amount = Principal + Interest

$$₹ 1245 = ₹ 1010 + \text{Interest}$$

$$\Rightarrow \text{Interest} = ₹ 1245 - ₹ 1010 = ₹ 235$$

- (b) Amount = Principal + Interest

$$₹ 9928 = \text{Principal} + ₹ 1256$$

$$\Rightarrow \text{Principal} = ₹ 9928 - ₹ 1256 = ₹ 8672$$

- (c) Here, $P = ₹ 3210$, $I = 5\%$

$$\therefore A = P + I = ₹ 3210 + \frac{5}{100} \times ₹ 3210$$

$$= ₹ 3210 + ₹ \frac{3210 \times 5}{100}$$

$$= ₹ 3210 + ₹ 160.50 = ₹ 3370.50$$

- (d) Here, $P = ₹ 9640$, $I = 8\%$

$$\therefore A = P + I = ₹ 9640 + \frac{8}{100} \times ₹ 9640$$

$$= ₹ 9640 + ₹ \frac{8 \times 9640}{100}$$

$$= ₹ 9640 + ₹ 771.20 = ₹ 10411.20$$

2. Here, $P = ₹ 8250$, $I = 6\%$

$$\therefore A = P + I = ₹ 8250 + \frac{6}{100} \times ₹ 8250$$

$$= ₹ 8250 + ₹ \frac{6 \times 8250}{100}$$

$$= ₹ 8250 + ₹ 495 = ₹ 8745$$

Thus, the total amount paid by Mahesh after one year is ₹ 8745.

3. Here, $P = ₹ 3600$, $A = ₹ 5250$

$$\therefore I = A - P = ₹ 5250 - ₹ 3600 = ₹ 1650$$

Thus, the interest payable by Vandana is ₹ 1650.

4. Here, $A = ₹ 54,328$, $I = ₹ 4,750$

$$\therefore P = A - I = ₹ 54,328 - ₹ 4,750 = ₹ 49,578$$

So, Mukta deposited ₹ 49,578.

Exercise-2

1. (a) We know that, $S.I. = \frac{P \times R \times T}{100}$

$$S.I. = \frac{300 \times 8 \times 1}{100} = ₹ 24$$

$$(b) S.I. = \frac{P \times R \times T}{100} = \frac{1200 \times 10 \times 3}{100} = ₹ 360$$

$$(c) S.I. = \frac{P \times R \times T}{100} = \frac{25000 \times 12.5 \times 4}{100} = ₹ 12500$$

$$(d) S.I. = \frac{P \times R \times T}{100} = \frac{5040 \times 9 \times 7}{12 \times 100} = ₹ 264.60 \quad (7 \text{ months} = \frac{7}{12} \text{ year})$$

$$(e) S.I. = \frac{P \times R \times T}{100} = \frac{43800 \times 16 \times 105}{365 \times 100} = ₹ 2016 \quad (105 \text{ days} = \frac{105}{365} \text{ year})$$

2. (a) $S.I. = \frac{P \times R \times T}{100} = \frac{800 \times 6 \times 3}{100} = ₹ 144$

$$\therefore A = P + S.I. = ₹ 800 + ₹ 144 = ₹ 944$$

$$(b) S.I. = \frac{P \times R \times T}{100} = \frac{2490 \times 5 \times 4}{3 \times 100} = ₹ 166$$

$$\therefore A = P + S.I. = ₹ 2490 + ₹ 166 = ₹ 2656$$

$$(c) S.I. = \frac{P \times R \times T}{100} = \frac{6550 \times 2.5 \times 6}{100} = ₹ 982.50$$

$$\therefore A = P + S.I. = ₹ 6550 + ₹ 982.50 = ₹ 7532.50$$

3. Here, $P = ₹ 5000$, $R = 4\%$, $T = 4$ years

$$\therefore S.I. = \frac{P \times R \times T}{100} = \frac{5000 \times 4 \times 4}{100} = ₹ 800$$

Hence, Ramesh will get ₹ 800 as interest.

4. Here, $P = ₹ 48000$, $R = 8\%$ per annum, $T = 5$ years

$$S.I. = \frac{P \times R \times T}{100} = \frac{48000 \times 8 \times 5}{100} = ₹ 19200$$

$$\therefore A = P + S.I. = ₹ 48000 + ₹ 19200 = ₹ 67200$$

Hence, Mrs Mahapatra will get ₹ 67200 after 5 years.

5. Here, $P = ₹ 12,000$, $R = 6\frac{1}{2}\% = \frac{13}{2}\%$ per annum, $T = 7$ years

$$\therefore \text{S.I.} = \frac{P \times R \times T}{100} = \frac{12000 \times 13 \times 7}{2 \times 100} = ₹ 5460$$

6. Here, $P = ₹ 21,000$, $R = 12\frac{1}{2}\% = \frac{25}{2}\%$ per annum,

$$T = 8 \text{ months} = \frac{8}{12} \text{ year}$$

$$\therefore \text{S.I.} = \frac{21000 \times 25 \times 8}{2 \times 100 \times 12} = ₹ 1750$$

$$\therefore A = P + \text{S.I.} = ₹ 21000 + ₹ 1750 = ₹ 22,750$$

Hence, Aditya will pay ₹ 22,750 to clear his debt.

7. Case - I: Here, $P = ₹ 5000$, $R = 5\%$ per annum, $T = 7$ years

$$\text{S.I.} = \frac{P \times R \times T}{100} = \frac{5000 \times 5 \times 7}{100} = ₹ 1750$$

Case-II: Here, $P = ₹ 5000$, $R = 6\%$ per annum, $T = 6$ years

$$\text{S.I.} = \frac{P \times R \times T}{100} = \frac{5000 \times 6 \times 6}{100} = ₹ 1800$$

Hence, interest on ₹ 5000 for 6 years at 6% per annum is greater.

Exercise-3

1. (a) $P = \frac{100 \times \text{S.I.}}{R \times T} = ₹ \frac{100 \times 248}{4 \times 2} = ₹ 3100$

(b) $P = \frac{100 \times \text{S.I.}}{R \times T} = ₹ \frac{100 \times 192}{8 \times 4} = ₹ 600$

(c) $P = \frac{100 \times \text{S.I.}}{R \times T} = ₹ \frac{100 \times 800}{10 \times 2} = ₹ 4000$

2. (a) $R = \frac{100 \times \text{S.I.}}{P \times T} = \frac{100 \times 600}{2500 \times 2} = 12\%$

(b) $R = \frac{100 \times \text{S.I.}}{P \times T} = \frac{100 \times 1920}{8000 \times 3} = 8\%$

(c) $R = \frac{100 \times \text{S.I.}}{P \times T} = \frac{100 \times 340}{1700 \times 2} = 10\%$

$$3. (a) T = \frac{100 \times \text{S.I.}}{P \times R} = \frac{100 \times 1728}{7200 \times 8} = 3 \text{ years}$$

$$(b) T = \frac{100 \times \text{S.I.}}{P \times R} = \frac{100 \times 800}{5000 \times 4} = 4 \text{ years}$$

$$(c) T = \frac{100 \times \text{S.I.}}{P \times R} = \frac{100 \times 2000}{10000 \times 5} = 4 \text{ years}$$

Mental Maths Corner

1. (a)

2. (c)

3. (b)

4. (d)

Review Exercise

1. $P = ₹ 30,000$, $A = ₹ 39,000$, $T = 3 \text{ years}$

$$\text{S.I.} = A - P = ₹ 39,000 - ₹ 30,000 = ₹ 9,000$$

Thus, Sunidhi got ₹ 9,000 as interest.

2. Here, $P = ₹ 36000$, $R = 10\% \text{ per annum}$, $T = 8 \text{ months} = \frac{8}{12} \text{ year}$

$$\text{S.I.} = \frac{P \times R \times T}{100} = \frac{36000 \times 10 \times 8}{12 \times 100} = ₹ 2400$$

Hence, Mohan will pay the interest of ₹ 2400.

3. Here, $P = ₹ 18000$, $R = 9\% \text{ per annum}$, $T = 2 \text{ years}$

$$\text{S.I.} = \frac{P \times R \times T}{100} = \frac{18000 \times 9 \times 2}{100} = ₹ 3240.$$

$$A = P + \text{S.I.} = ₹ 18000 + ₹ 3240 = ₹ 21240$$

Hence, Mrs Bhasin will get back ₹ 21240.

4. $P = ₹ 6500$, $\text{S.I.} = ₹ 2600$, $R = 8\% \text{ per annum}$

$$T = \frac{100 \times \text{S.I.}}{P \times R} = \frac{100 \times 2600}{6500 \times 8} = 5 \text{ years}$$

Thus, the required time is 5 years.

5. $T = 4 \text{ years}$, $R = 10\% \text{ per annum}$, $\text{S.I.} = ₹ 4800$

$$P = \frac{100 \times \text{S.I.}}{R \times T} = ₹ \frac{100 \times 4800}{10 \times 4} = ₹ 12,000$$

Thus, the principal is ₹ 12,000.

6. $P = ₹ 22,500$, $\text{S.I.} = ₹ 5400$, $T = 4 \text{ years}$

$$R = \frac{100 \times \text{S.I.}}{P \times T} = \frac{100 \times 5400}{22500 \times 4} = 6\%$$

Thus, the rate of interest is 6% per annum.