Access answers to Maths RD Sharma Solutions For Class 7 Chapter 13 – Simple Interest

1. Find the simple interest, when:
(i) Principal = Rs 2000, Rate of Interest = 5% per annum and Time = 5 years.
(ii) Principal = Rs 500, Rate of Interest = 12.5% per annum and Time = 4 years.
(iii) Principal = Rs 4500, Rate of Interest = 4% per annum and Time = 6 months.

(iv) Principal = Rs 12000, Rate of Interest = 18% per annum and Time = 4 months.
(v) Principal = Rs 1000, Rate of Interest = 10% per annum and Time = 73 days.

Solution:

(i) Given Principal = Rs 2000, Rate of Interest = 5% per annum and Time = 5 years.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (2000 × 5 × 5)/100

= Rs 500

(ii) Given Principal = Rs 500, Rate of Interest = 12.5% per annum and Time = 4 years.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (500 × 4 × 12.5)/100

= Rs 250

(iii) Given Principal = Rs 4500, Rate of Interest = 4% per annum and Time = 6 months = ½ years

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (4500 × ½ × 12.5)/100

SI = (4500 × 1 × 12.5)/100 × 2

= Rs 90

(iv) Given Principal = Rs 12000, Rate of Interest = 18% per annum and Time = 4 months = (4/12) = (1/3) years

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (12000 × (1/3) × 18)/100

SI = (12000 × 1 × 18)/100 × 3

= Rs 720

(v) Given Principal = Rs 1000, Rate of Interest = 10% per annum and

Time = 73 days = (73/365) days

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (1000 × (73/365) × 10)/100

SI = (1000 × 73 × 10)/100 × 365

= Rs 20

2. Find the interest on Rs 500 for a period of 4 years at the rate of 8% per annum. Also, find the amount to be paid at the end of the period.

Solution:

Given Principal amount P = Rs 500

Time period T = 4 years

Rate of interest R = 8% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (500 × 4 × 8)/100

= Rs 160

Amount = Principal amount + Interest

= Rs 500 + 160

= Rs 660

3. A sum of Rs 400 is lent at the rate of 5% per annum. Find the interest at the end of 2 years.

Solution:

Given Principal amount P = Rs 400

Time period T = 2 years

Rate of interest R = 5% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (400 × 2 × 5)/100

= Rs 40

4. A sum of Rs 400 is lent for 3 years at the rate of 6% per annum. Find the interest.

Solution:

Principal amount P = Rs 400

Time period T = 3 years

Rate of interest R = 6% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (400 × 3 × 6)/100

= Rs 72

5. A person deposits Rs 25000 in a firm who pays an interest at the rate of 20% per annum. Calculate the income he gets from it annually.

Solution:

Given Principal amount P = Rs 25000

Time period T = 1 year

Rate of interest R = 20% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (25000 × 1 × 20)/100

= Rs 5000

6. A man borrowed Rs 8000 from a bank at 8% per annum. Find the amount he has to pay after 4 ½ years.

Solution:

Given Principal amount P = Rs 8000

Time period T = 4 ½ years = 9/2 years

Rate of interest R = 8% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (8000 × (9/2) × 8)/100

= Rs 2880

Amount = Principal amount + Interest

= Rs 8000 + 2880

= Rs 10880

7. Rakesh lent out Rs 8000 for 5 years at 15% per annum and borrowed Rs 6000 for 3 years at 12% per annum. How much did he gain or lose?

Solution:

Given Principal amount P = Rs 8000

Time period T = 5 years

Rate of interest R = 15% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (8000 × 5 × 15)/100

= Rs 6000

Principal amount P = Rs 6000

Time period T = 3 years

Rate of interest R = 12% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (6000 × 3 × 12)/100

= Rs 2160

Amount gained by Rakesh = Rs 6000 − Rs 2160

= Rs 3840

8. Anita deposits Rs 1000 in a savings bank account. The bank pays interest at the rate of 5% per annum. What amount can Anita get after one year?

Solution:

Given Principal amount P = Rs 1000

Time period T = 1 year

Rate of interest R = 5% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (1000 × 1 × 5)/100

= Rs 50

Total amount paid after 1 year = Principal amount + Interest

= Rs 1000 + Rs 50

= Rs 1050

9. Nalini borrowed Rs 550 from her friend at 8% per annum. She returned the amount after 6 months. How much did she pay?

Solution:

Given Principal amount P = Rs 550

Time period T = ½ year

Rate of interest R = 8% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (550 × ½ × 8)/100

= Rs 22

Total amount paid after ½ year = Principal amount + Interest

= Rs 550 + Rs 22

= Rs 572

10. Rohit borrowed Rs 600000 from a bank at 9% per annum for 2 years. He lent this sum of money to Rohan at 10% per annum for 2 years. How much did Rohit earn from this transaction?

Solution:

Given Principal amount P = Rs 60000

Time period T = 2 years

Rate of interest R = 10% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (60000 × 2 × 10)/100

= Rs 12000

Principal amount P = Rs 60000

Time period T = 2 years

Rate of interest R = 9% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (60000 × 2 × 9)/100

= Rs 10800

Amount gained by Rohit = Rs 12000 − Rs 10800

= Rs 1200

11. Romesh borrowed Rs 2000 at 2% per annum and Rs 1000 at 5% per annum. He cleared his debt after 2 years by giving Rs 2800 and a watch. What is the cost of the watch?

Solution:

Given Principal amount P = Rs 2000

Time period T = 2 years

Rate of interest R = 2% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (2000 × 2 × 2)/100

= Rs 80

Principal amount P = Rs 1000

Time period T = 2 years

Rate of interest R = 5% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (1000 × 2 × 5)/100

= Rs 100

Total amount that he will have to return = Rs. 2000 + 1000 + 80 + 100 = Rs. 3180

Amount repaid = Rs. 2800

Value of the watch = Rs. 3180 – 2800 = Rs. 380

12. Mr Garg lent Rs 15000 to his friend. He charged 15% per annum on Rs 12500 and 18% on the rest. How much interest does he earn in 3 years?

Solution:

Given Principal amount P = Rs 15000

Time period T = 3 years

Rate of interest R = 15% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (15000 × 3 × 15)/100

= Rs 5625

Rest of the amount lent = Rs 15000 − Rs 12500 = Rs 2500

Rate of interest = 18 % p.a.

Time period = 3 years

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (2500 × 3 × 18)/100

= Rs 1350

Total interest earned = Rs 5625 + Rs 1350 = Rs 6975

13. Shikha deposited Rs 2000 in a bank which pays 6% simple interest. She withdrew Rs 700 at the end of first year. What will be her balance after 3 years?

Solution:

Given Principal amount P = Rs 2000

Time period T = 1 year

Rate of interest R = 6% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (2000 × 1 × 6)/100

= Rs 120

So amount after 1 year = Principal amount + Interest = 2000 + 120 = Rs 2120

after 1 year, amount withdrawn = Rs 700

Principal amount left = Rs 2120 − Rs 700 = Rs 1420

Time period = 2 years

Rate of interest = 6% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (1420 × 2 × 6)/100

Interest after two years = Rs 170.40

Total amount after 3 years = Rs 1420 + Rs 170.40 = Rs 1590.40

14. Reema took a loan of Rs 8000 from a money lender, who charged interest at the rate of 18% per annum. After 2 years, Reema paid him Rs 10400 and wrist watch to clear the debt. What is the price of the watch?

Solution:

Given Principal amount P = Rs 8000

Time period T = 2 years

Rate of interest R = 18% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (8000 × 2 × 18)/100

= Rs 2880

Total amount payable by Reema after 2 years = Rs 8,000 + Rs 2,880

= Rs 10,880

Amount paid = Rs 10,400

Value of the watch = Rs 10,880 − Rs 10,400 = Rs 480

15. Mr Sharma deposited Rs 20000 as a fixed deposit in a bank at 10% per annual. If 30% is deducted as income tax on the interest earned, find his annual income.

Solution:

Given Principal amount P = Rs 20000

Time period T = 1 year

Rate of interest R = 10% p.a.

We know that simple interest = (P × T × R)/100

On substituting these values in above equation we get

SI = (20000 × 1 × 10)/100

= Rs 2000

Amount deducted as income tax = 30% of 2000 = (30 × 2000)/100

= Rs 200

Annual interest after tax deduction = Rs 2,000 − Rs 600 = Rs 1,400