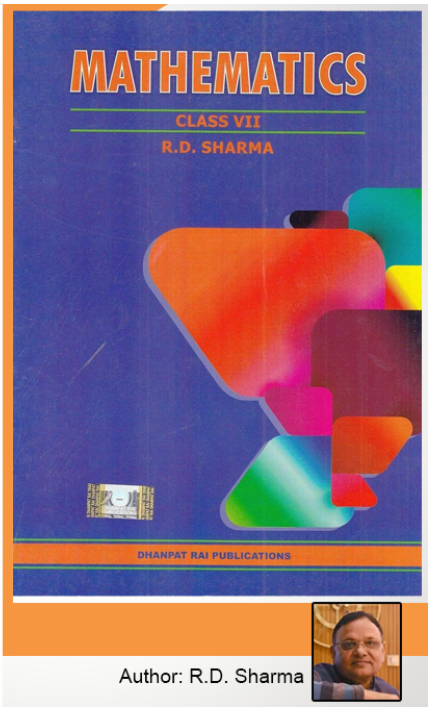
Class 7 - Chapter 13 Simple Interest



RD Sharma Solutions for Class 7 Maths Chapter 13–Simple Interest

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RD Sharma Solutions for Class 7 Maths Chapter 13–Simple Interest

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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 × 4)/100

SI = (4500 × 1 × 4)/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:

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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 60000 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:

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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 6750

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 6750 + Rs 1350 = Rs 8100

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 600

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

Chapterwise RD Sharma Solutions for Class 7 Maths :

- Chapter 1–Integers
- Chapter 2–Fractions
- Chapter 3–Decimals
- Chapter 4–Rational Numbers
- Chapter 5–Operations On Rational Numbers
- Chapter 6–Exponents
- Chapter 7–Algebraic Expressions
- Chapter 8–Linear Equations in One Variable
- Chapter 9–Ratio And Proportion
- Chapter 10–Unitary Method
- Chapter 11–Percentage
- Chapter 12–Profit And Loss
- Chapter 13–Simple Interest
- Chapter 14–Lines And Angles
- Chapter 15–Properties of Triangles
- Chapter 16–Congruence
- Chapter 17–Constructions
- Chapter 18–Symmetry
- Chapter 19–Visualising Solid Shapes
- Chapter 20–Mensuration - I (Perimeter and area of rectilinear figures)
- Chapter 21–Mensuration - II (Area of Circle)
- Chapter 22–Data Handling - I (Collection and Organisation of Data)
- Chapter 23–Data Handling - II Central Values
- Chapter 24–Data Handling - III (Constructions of Bar Graphs)
- Chapter 25–Data Handling - IV (Probability)

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About RD Sharma

RD Sharma i*sn't the kind of author you'd bump into at lit fests. But his bestselling books have helped many* CBSE *students lose their dread of* maths. *Sunday Times profiles the tutor turned internet star*

He dreams of algorithms that would give most people nightmares. And, spends every waking hour thinking of ways to explain concepts like 'series solution of linear differential equations'. Meet Dr Ravi Dutt Sharma — mathematics teacher and author of 25 reference books — whose name evokes as much awe as the subject he teaches. And though students have used his thick tomes for the last 31 years to ace the dreaded maths exam, it's only recently that a spoof video turned the tutor into a YouTube star.

R D Sharma had a good laugh but said he shared little with his on-screen persona except for the love for maths. "I like to spend all my time thinking and writing about maths problems. I find it relaxing," he says. When he is not writing books explaining mathematical concepts for classes 6 to 12 and engineering students, Sharma is busy dispensing his duty as vice-principal and head of department of science and humanities at Delhi government's Guru Nanak Dev Institute of Technology.