Banks and Simple Interest

PRACTICE SET 40 [PAGE 73]

Practice Set 40 | Q 1 | Page 73

If Rihanna deposits 1500 rupees in the school fund at 9 p.c.p.a for 2 years, what is the total amount she will get?

Solution: Given:

Principal (P) = 1500 rupees,

Rate of interest (R) = 9%

Time (T) = 2 years

$$\text{Total interest (I)} = \frac{P \times R \times T}{100}$$

$$= \frac{1500 \times 9 \times 2}{100}$$

= 270 rupees

Now, total amount = P + I

= 1500 + 270

= 1770 rupees

Hence, Rihanna will get the total amount of 1770 rupees.

Practice Set 40 | Q 2 | Page 73

Jethalal took a housing loan of 2,50,000 rupees from a bank at 10 p.c.p.a. for 5 years. What are the yearly interest he must pay and the total amount he returns to the bank?

Solution: Given:

Principal (P) = 2,50,000 rupees,

Rate of interest (R) = 10%

Time (T) = 5 years

$$\text{Total interest (I)} = \frac{P \times R \times T}{100}$$
$$= \frac{2,50,000 \times 10 \times 5}{100}$$

= 1,25,000 rupees

Now, total amount = P + I

= 2,50,000 + 1,25,000

= 3,75,000 rupees

Hence, Jethalal will have to pay 125000 rupees as interest and 375000 as the total amount to the bank.

Practice Set 40 | Q 3 | Page 73

Shrikant deposited 85,000 rupees for 2 1/2 years at 7 p.c.p.a. in a savings bank account. What is the total interest he received at the end of the period?

Solution: Given:

Principal (P) = 85000 rupees,

Rate of interest (R) = 7%

$$\text{Time (T)} = 2\frac{1}{2} \text{ years}$$
$$= \frac{5}{2} \text{ years}$$
$$\text{Total interest (I)} = \frac{P \times R \times T}{100}$$
$$= \frac{85000 \times 7 \times 5}{2 \times 100}$$

= 14875 rupees

Hence, Shrikant will receive 14875 rupees as interest from the bank.

Practice Set 40 | Q 4 | Page 73

At a certain rate of interest, the interest after 4 years on 5000 rupees principal is 1200 rupees. What would be the interest of 15000 rupees at the same rate of interest for the same period?

Solution: Given:

Principal (P) = 5000 rupees,

Time (T) = 4 years

Total interest (I) = 1200

$$\text{Rate of interest (R)} = \frac{I \times 100}{P \times T}$$

$$= \frac{1200 \times 100}{5000 \times 4}$$

$$= 6\%$$

$$\text{Now, Total interest (I) on 15000 rupees} = \frac{P \times R \times T}{100}$$

$$= \frac{15000 \times 6 \times 4}{100}$$

$$= 3600 \text{ rupees}$$

Hence, the rate of interest for the same period is 3600 rupees.

Practice Set 40 | Q 5 | Page 73

If Pankaj deposits 1,50,000 rupees in a bank at 10 p.c.p.a. for two years, what is the total amount he will get from the bank?

Solution: Given:

Principal (P) = 150000 rupees,

Rate of interest (R) = 10%

Time (T) = 2 years

$$\text{Total interest (I)} = \frac{P \times R \times T}{100}$$

$$= \frac{150000 \times 10 \times 2}{100}$$

= 30000 rupees

Now, total amount = P + I

= 150000 + 30000

= 180000 rupees

Hence, Pankaj will get the total amount of 180000 rupees from the bank.

PRACTICE SET 41 [PAGE 74]

Practice Set 41 | Q 1 | Page 74

If the interest on 1700 rupees is 340 rupees for 2 years the rate of interest must be _____.

1. 12%
2. 15%
3. 4%
4. **10%**

Solution: 10%

Given:
Principal (P) = 1700 rupees,
Total interest (I) = 340 rupees
Time (T) = 2 years

$$\text{Rate of interest (R)} = \frac{I \times 100}{P \times T}$$

$$= \frac{340 \times 100}{1700 \times 2}$$

$$= 10\%$$

Practice Set 41 | Q 2 | Page 74

If the interest on 3000 rupees is 600 rupees at a certain rate for a certain number of years, what would the interest be on 1500 rupees under the same conditions?

1. **300 rupees**
2. 1000 rupees
3. 700 rupees
4. 500 rupees

Solution: 300 rupees

Explanation:

The interest on 3000 rupees is 600 rupees

The interest in 1 rupee is $\frac{600}{3000}$ rupees

The interest in 1500 rupee is $\frac{600}{3000} \times 1500$ = 300 rupees

Hence, the correct option is 300 rupees.

Practice Set 41 | Q 3 | Page 74

Javed deposited 12000 rupees at 9 p.c.p.a. in a bank for some years, and withdrew his interest every year. At the end of the period, he had received altogether 17,400 rupees. For how many years had he deposited his money?

Solution: Given:

Principal (P) = 12000 rupees,

Rate of interest (R) = 9%

Total Amount = 17400 rupees

Total interest (I) = 17400 – 12000

= 5400 rupees

Time (T) = $\frac{I \times 100}{P \times T}$

= $\frac{5400 \times 100}{12000 \times 9}$

= 5 years

Hence, Javed had deposited the money for 5 years.

Practice Set 41 | Q 4 | Page 74

Lataben borrowed some money from a bank at a rate of 10 p.c.p.a. interest for 2 1/2 years to start a cottage industry. If she paid 10250 rupees as total interest, how much money had she borrowed?

Solution: Given:

Total interest (I) = 10250 rupees

Rate of interest (R) = 10%

Time (T) = $2\frac{1}{2}$

= $\frac{5}{2}$ years

Principal (P) = $\frac{I \times 100}{R \times T}$

= $\frac{10250 \times 100 \times 2}{10 \times 5}$

= 41000 rupees

Hence, Lataben had deposited 41000 rupees in a bank.

Practice Set 41 | Q 5.1 | Page 74

Fill in the blanks.

Principal	Rate of interest (p.c.p.a.)	Time	Interest	Amount
4200	7%	3 years	_____	_____

Solution: Given:

Principal (P) = 4200 rupees,

Rate of interest (R) = 7%

Time (T) = 3 years

Total interest (I) = $\frac{P \times R \times T}{100}$

= $\frac{4200 \times 7 \times 3}{100}$

= 882 rupees

Total Amount = P + I
= 4200 + 882
= 5082 rupees

Principal	Rate of interest (p.c.p.a.)	Time	Interest	Amount
4200	7%	3 years	**882**	**5082**

Practice Set 41 | Q 5.2 | Page 74

Fill in the blanks.

Principal	Rate of interest (p.c.p.a.)	Time	Interest	Amount
_____	6%	4 years	1200	_____

Solution: Given:

Total interest (I) = 1200 rupess

Rate of interest (R) = 6%

Time (T) = 4 years

$$\text{Principal (P)} = \frac{I \times 100}{R \times T}$$

$$= \frac{1200 \times 100}{6 \times 4}$$

= 5000 rupees

Total Amount = P + I
= 5000 + 1200
= 6200 rupees

Principal	Rate of interest (p.c.p.a.)	Time	Interest	Amount
5000	6%	4 years	1200	**6200**

Practice Set 41 | Q 5.3 | Page 74

Fill in the blanks.

Principal	Rate of interest (p.c.p.a.)	Time	Interest	Amount

8000	5%	_____	800	_____

Solution: Given:

Principal (P) = 8000 rupees
Total interest (I) = 800 rupess
Rate of interest (R) = 5%

$$\text{Time (T)} = \frac{I \times 100}{P \times R}$$
$$= \frac{800 \times 100}{8000 \times 5}$$

= 2 years

Total Amount = P + I
= 8000 + 800
= 8800 rupees

Principal	Rate of interest (p.c.p.a.)	Time	Interest	Amount
8000	5%	**2 years**	800	**8800**

Practice Set 41 | Q 5.4 | Page 74

Fill in the blanks.

Principal	Rate of interest (p.c.p.a.)	Time	Interest	Amount
_____	5%	_____	6000	18000

Solution: Given:

Principal (P) = 8000 rupees
Total interest (I) = 6000 rupess

Now, Principal (P) = Total Amount − I
= 18000 − 6000
= 12000 rupees

Rate of interest (R) = 5%

$$\text{Time (T)} = \frac{I \times 100}{P \times R}$$
$$= \frac{6000 \times 100}{12000 \times 5}$$

= 10 years

Principal	Rate of interest (p.c.p.a.)	Time	Interest	Amount
12000	5%	**10 years**	6000	18000

Practice Set 41 | Q 5.5 | Page 74

Fill in the blanks.

Principal	Rate of interest (p.c.p.a.)	Time	Interest	Amount
_____	2 1/2 %	5 years	2400	_____

Solution: Given:

Total interest (I) = 2400 rupess

$$\text{Rate of interest (R)} = 2\frac{1}{2}\%$$
$$= \frac{5}{2}\%$$

Time (T) = 5 years

$$\text{Principal (P)} = \frac{I \times 100}{R \times T}$$
$$= \frac{2400 \times 100 \times 2}{5 \times 5}$$

= 19200 rupees

Total Amount = P + I
= 19200 + 2400
= 21600 rupees

Principal	Rate of interest (p.c.p.a.)	Time	Interest	Amount
19200	$2\frac{2}{1}\%$	5 years	2400	**21600**