



Exercise 11A

Q1.

Answer :

Principal for the first year = Rs. 2500

Interest for the first year = Rs. $\left(\frac{2500 \times 10 \times 1}{100}\right)$ = Rs. 250

Amount at the end of the first year = Rs. $(2500 + 250)$ = Rs. 2750

Principal for the second year = Rs. 2750

Interest for the second year = Rs. $\left(\frac{2750 \times 10 \times 1}{100}\right)$ = Rs. 275

Amount at the end of the second year = Rs. $(2750 + 275)$ = Rs. 3025

\therefore Compound interest = Rs. $(3025 - 2500)$ = Rs. 525

Q2.

Answer :

Principal for the first year = Rs. 15625

Interest for the first year = Rs. $\left(\frac{15625 \times 12 \times 1}{100}\right)$ = Rs. 1875

Amount at the end of the first year = Rs. $(15625 + 1875)$ = Rs. 17500

Principal for the second year = Rs. 17500

Interest for the second year = Rs. $\left(\frac{17500 \times 12 \times 1}{100}\right)$ = Rs. 2100

Amount at the end of the second year = Rs. $(17500 + 2100)$ = Rs. 19600

Principal for the third year = Rs. 19600

Interest for the third year = Rs. $\left(\frac{19600 \times 12 \times 1}{100}\right)$ = Rs. 2352

Amount at the end of the second year = Rs. $(19600 + 2352)$ = Rs. 21952

\therefore Compound interest = Rs. $(21952 - 15625)$ = Rs. 6327

Q3.

Answer :

Principal amount = Rs. 5000

Simple interest = Rs. $\left(\frac{5000 \times 2 \times 9}{100}\right)$ = Rs. 900

The compound interest can be calculated as follows :

Principal for the first year = Rs. 5000

Interest for the first year = Rs. $\left(\frac{5000 \times 9 \times 1}{100}\right)$ = Rs. 450

Amount at the end of the first year = Rs. $(5000 + 450)$ = Rs. 5450

Principal for the second year = Rs. 5450

Interest for the second year = Rs. $\left(\frac{5450 \times 9 \times 1}{100}\right)$ = Rs. 490.5

Amount at the end of the second year = Rs. $(5450 + 490.5)$ = Rs. 5940.5

\therefore Compound interest = Rs. $(5940.5 - 5000)$ = Rs. 940.5

Now, difference between the simple interest and the compound interest = $(CI - SI)$ = Rs. $(940.5 - 900)$ = Rs. 40.5

Q4.

Answer :

Principal for the first year = Rs. 25000

Interest for the first year = Rs. $\left(\frac{25000 \times 8 \times 1}{100}\right)$ = Rs. 2000

Amount at the end of the first year = Rs. $(25000 + 2000)$ = Rs. 27000

Principal for the second year = Rs. 27000

Interest for the second year = Rs. $\left(\frac{27000 \times 8 \times 1}{100}\right)$ = Rs. 2160

Amount at the end of the second year = Rs. $(27000 + 2160)$ = Rs. 29160

Therefore, Ratna has to pay Rs. 29160 after 2 years to discharge her debt.

Q5.

Answer :

Principal amount = Rs. 20000

Simple interest = Rs. $\left(\frac{20000 \times 2 \times 12}{100}\right)$ = Rs. 4800

The compound interest can be calculated as follows :

Principal for the first year = Rs. 20000

Interest for the first year = Rs. $\left(\frac{20000 \times 12 \times 1}{100}\right)$ = Rs. 2400

Now, amount at the end of the first year = Rs. $(20000 + 2400)$ = Rs. 22400

Principal for the second year = Rs. 22400

Interest for the second year = Rs. $\left(\frac{22400 \times 12 \times 1}{100}\right)$ = Rs. 2688

Now, amount at the end of the second year = Rs. $(22400 + 2688)$ = Rs. 25088

Hence, compound interest = Rs. $(25088 - 20000)$ = Rs. 5088

Now, CI - SI = Rs. $(5088 - 4800)$ = Rs. 288

\therefore The amount of money Harpreet will gain after two years is Rs 288.

Q6.

Answer :

Principal for the first year = Rs. 64000

Interest for the first year = Rs. $\left(\frac{64000 \times 15 \times 1}{100 \times 2}\right)$ = Rs. 4800

Now, amount at the end of the first year = Rs. $(64000 + 4800)$ = Rs. 68800

Principal for the second year = Rs. 68800

Interest for the second year = Rs. $\left(\frac{68800 \times 15 \times 1}{100 \times 2}\right)$ = Rs. 5160

Now, amount at the end of the second year = Rs. $(68800 + 5160)$ = Rs. 73960

Principal for the third year = Rs. 73960

Interest for the third year = Rs. $\left(\frac{73960 \times 15 \times 1}{100 \times 2}\right)$ = Rs. 5547

Now, amount at the end of the third year = Rs. $(73960 + 5547)$ = Rs. 79507

∴ Manoj will get an amount of Rs. 79507 after 3 years.

Q7.

Answer :

Principal amount = Rs. 6250

Rate of interest = 8% per annum = 4% for half year

Time = 1 year = 2 half years

Principal for the first half year = Rs. 6250

Interest for the first half year = Rs. $\left(\frac{6250 \times 4 \times 1}{100}\right)$ = Rs. 250

Now, amount at the end of the first half year = Rs. $(6250 + 250)$ = Rs. 6500

Principal for the second half year = Rs. 6500

Interest for the second half year = Rs. $\left(\frac{6500 \times 4 \times 1}{100}\right)$ = Rs. 260

Now, amount at the end of the second half year = Rs. $(6500 + 260)$ = Rs. 6760

∴ Compound interest = Rs. $(6760 - 6250)$ = Rs. 510

Hence, Divakaran gets a compound interest of Rs. 510.

Q8.

Answer :

Principal amount = Rs. 16000

Rate of interest = 10% per annum = 5% for half year

Time = $1\frac{1}{2}$ years = 3 half years

Principal for the first half year = Rs. 16000

Interest for the first half year = Rs. $\left(\frac{16000 \times 5 \times 1}{100}\right)$ = Rs. 800

Now, amount at the end of the first half year = Rs. $(16000 + 800)$ = Rs. 16800

Principal for the second half year = Rs. 16800

Interest for the second half year = Rs. $\left(\frac{16800 \times 5 \times 1}{100}\right)$ = Rs. 840

Now, amount at the end of the second half year = Rs. $(16800 + 840)$ = Rs. 17640

Principal for the third half year = Rs. 17640

Interest for the third half year = Rs. $\left(\frac{17640 \times 5 \times 1}{100}\right)$ = Rs. 882

Now, amount at the end of the third half year = Rs. $(17640 + 882)$ = Rs. 18522

∴ The amount of money Michael has to pay the finance company after $1\frac{1}{2}$ years is Rs. 18522.

***** END *****