2019 Q#6 (b):-

The cost of hiring a car for 2 days in 2018 was Rs. 264 which was 20% more than in 2013. What was the cost of hiring a car in 2013?

GIVEN: Cost of hiring a car in 2018 = Rs. 264

Cost of hiring a car in 2018 = 20% more than in 2013

REQUIRED: Cost of hiring a car in 2013 = ?

FORMULA: Cost in 2013 = Cost in 2018 − % Increase in cost of 2018 from 2013.

SOLUTION: As from the given statement, it is clear that there was an increase in the cost of hiring a car from 2013 to 2018 & this increase was given in the percentage (i.e., 20%). So this means that means that the hiring cost of 2018 must be greater than that of 2013, so to find out the cost in 2013, one should subtract the total increase from cost of 2018.

→ Total increase from 2013 to 2018:

Total increase = 20% increase. So it becomes

= 20% of 264

= $\frac{20}{100} \times 264$

Total increase = 52.8

→ Putting in formula:

Cost in 2013 = 264 − 52.8

= 211.2 Rs.

RESULT:- So, the cost of hiring car in 2013 was Rs. 211.2.

R.In

52.8

5 | 264
25
14
10
264 | 40
− 52 | 40
212 | ×

212 − 0.8 = 211.2

2021 Q6 (c):- Mr. Faheem has dinner with his family at a restaurant which offers a 10% discount on food. The marked price of the food that they order was 15000/-. Given that there was a service charges of 10% and GST is 17%, calculate the total amount of money he has to pay. (5 marks).

GIVEN: Discount on food = 10%.

Total price of ordered food = 15000

Service charges = 10%. & GST = 17%.

REQUIRED: Total amount of money = ?

FORMULA: Total amount = Price of food after discount + calculated price of service charges & GST on discounted price

SOLUTION:

→ Finding price of food after discount: As, the discount was given on the price of food to be ordered, so it should be subtracted first from total price of food:

Price of food after discount = Total price − Discount

$$= 15000 - 10\% \text{ of } 15000$$

$$= 15000 - \frac{10}{100} \times 15000$$

$$= 15000 - 1500$$

$$= 13500 \text{ Rs.}$$

R.W
150 15000
×10 −1500
000 13500
150×
1500

So, the price of food after 10% discount = Rs.13500

→ Finding amount of service charges & GST: As, the service charges and GST both were to be added to the price, So first we have to find that amount from their percentages.

Percentage of service charges (10%) + Percentage of GST(17) = 27%, So 27% of the price of food after discount

$$= 27\% \times 13500 = \frac{27}{100} \times 13500$$

$$= 3645 \text{ Rs.}$$

135	1350
×27	+364
945	1714
270×	
3645	

So, the extra amount to be added = Rs. 3645

→ Putting values in formula:

Total amount = 13500 + 3645

$$= 17145 \text{ Rs.}$$

RESULT: So, the total amount to be paid = Rs. 17145.

2022 Q#6 (b):-

The income of a compananyt *decreased* by 10% and 15% in two successive years. What is the percentage of decrease in income after two years?

GIVEN: Decrease in company's income in 1st year = 10%.

Decrease in company's income in consecutive 2nd year = 15%.

REQUIRED: Percentage decrease in income after two yrs = ?

SOLUTION: Let the income of company before these years be 100, and the two consecutive years be 2021 and 2022.

So the income of country in 2020 = 100.

→ Decrease in income by 10% in 2021:

As given in the statement that the decrease in income in first year was 10%, so the total income of the company in 2021 will be:

Income in 2021 = Income in 2020 − 10% decrease *of* in *income* 2020

$$= 100 - 10\% \text{ of } 100$$
$$= 100 - \frac{10}{100} \times 100$$
$$= 100 - 10$$

Income in 2021 $= 90$

So, the income generated in 2021 was 90.

→ Decrease in income by 15% in 2022:

As given in statement that decrease in income was 15% in next year, So:

Income in 2022 = Income in 2021 − 15% decrease *of* in 2021 income

$$= 90 - 15\% \text{ of } 90$$
$$= 90 - \frac{15}{10\!\!\!\!/} \times 90$$

R.W

$3 \times 9 = 27$

$2\sqrt{27}$

$\frac{24}{10}$

$$= 90 - 13.5$$

Income in 2022 $= 76.5$

So, the income generated was 76.5

→ Finding decrease in income after two consecutive years.

As the income in 2020 was 100 and after decrease in two years, it was 76.5 in 2022. So,

$$100 - 76.5 = 23.5$$

For percentage decrease $= \dfrac{New - Old}{Old} \times 100\%$

New = income generated in 2022 = 76.5

Old = income in 2020 = 100.

$$= \dfrac{76.5 - 100}{100} \times 100\% = -23.5\%.$$

This $-$ sign indicates decrease.

RESULT:

So, the percentage decrease in company's income after two years $= 23.5\%$.

2022 Q#8(c):-

During a sale a clerk was putting new price tags on each item. On one sweater, he accidentally raised the price by 20% instead of lowering the price by 20%. As a result the price on the tag was Rs.80 too high. What was the original price of the sweater?

GIVEN: Price of sweater after 20% increase = Rs. 80

REQUIRED: Original price of sweater = ?

FORMULA: Original price $= \dfrac{Increase\ price \times 100}{Percentage}$

Side column (right):

90
− 13
——
77

77 − 0.5 = 76.5

100
76
——
24

24 − 0.5 = 23.5

SOLUTION:

As the price increased by 20%, So Rs.80 of a sweater highlights the 120% of original price of sweater

Original price = $\frac{80}{120} \times 100$

= 66.666 OR

Original price = 66.67

RESULT: The original price of sweater = 66.67Rs.

R.W
```
      66.6
3 ) 200
      18
      20
      18
      20
      18
      20
```

2023 Q#8(a):

Ali buys an oven for Rs.36800 and sells it at a gain of 8.5%. For how much does he sell it?

GIVEN: Buying price = Rs.36800
          Percentage of Profit = 8.5%

REQUIRED: Selling price = ?

FORMULA: Selling price = Buying price + Profit

Good ⭐

SOLUTION: As, he earned a profit of 8.5%. So, to find out the amount of profit, we can do:

Amount of Profit = 8.5% of 36800

= 8.5% × 36800

= $\frac{8.5}{100} \times 36800$

Amount of Profit = 3128

→ Putting values in formula:

Selling price = 36800 + 3128

= 39928

→ Error Check: $\frac{36800}{39928} \times 100\%$ ∧ $\frac{New-old}{old} \times 100\%$

=) $\frac{39928-36800}{36800} \times 100\% = 8.5\%$

RESULT: Selling price of oven = Rs.39928.

R.W
```
    368
  × 85
  9840
 2944×
 2128.0
```
```
  36800
+  3128
  39928
```