Percentage And Its Applications
Ex. 8.4

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<u>Ex. 8.4</u>

1. S.P. of pizza = ₹ 262.50

    Tax = ₹ 12.50

    Price of pizza without tax = 262.50 − 12.50
    $$= ₹ 250$$

    ∴ tax % = $\dfrac{12.50}{\overset{50}{\underset{5}{\cancel{250}}}} \times \overset{2}{\cancel{100}}\%$

    $$= \dfrac{25}{5}\%$$

    $$= 5\%$$

2. S.P. of article = ₹ 89.25

    G.S.T = 5%

    Price of article before GST = $\dfrac{100 \times S.P.}{100 + G.S.T}$

    $$= \dfrac{100 \times 89.25}{100 + 5}$$

    $$= \dfrac{\overset{1785}{\cancel{8925}}\ \overset{85}{\cancel{1785}}}{\underset{21}{\cancel{105}}\ \underset{1}{\cancel{21}}}$$

    $$= ₹ 85$$

3. C.P. of mixer = ₹ 2000

    Sales tax = 12%

    S.P. of mixer = $\left(\dfrac{100 + S.T}{100}\right) \times C.P.$

    $$= \left(\dfrac{100 + 12}{\cancel{100}}\right) \times 20\cancel{00}$$

    $$= 112 \times 20$$

    $$= ₹ 2240$$

    ∴ Amount paid by Rohan = ₹ 2240

4. S.P. of fridge = ₹ 30680
   M.P. of fridge = ₹ 26000
   G.S.T. = S.P. − M.P.
   $$= 30680 − 26000$$
   $$= ₹ 4680$$

   Rate of G.S.T. $= \dfrac{G.S.T.}{M.P.} \times 100$

   $$= \dfrac{\cancel{4680}}{\cancel{26000}} \times \cancel{100}$$

   $$= 18\%$$

5. C.P. of TV set = ₹ 4000
   Profit = 5%
   S.P. of TV set $= \left(\dfrac{100 + P\%}{100}\right) C.P.$

   $$= \left(\dfrac{100 + 5}{\cancel{100}}\right) \times \cancel{4000}$$

   $$= 105 \times 40$$
   $$= ₹ 4200$$

   G.S.T = 12%
   S.P. of TV set including GST $= \left(\dfrac{100 + 12}{\cancel{100}}\right) \times \cancel{4200}$

   $$= 112 \times 42$$
   $$= ₹ 4704$$

   ∴ Amount paid by customer = ₹ 4704

5. C.P. of 1 shirt = ₹ 700
   C.P. of 12 shirts = 700 × 12   (1 dozen = 12)
   $$= ₹ 8400$$

Profit = 8%.

S.P. of shirts = $\left(\dfrac{100 + P\%}{100}\right)$ C.P

$= \left(\dfrac{100 + 8}{\cancel{100}}\right) \times 84\cancel{00}$

$= 108 \times 84$

$= ₹\ 9072$

S.P. including GST $= \left(\dfrac{100 + 18}{100}\right) \times 9072$

$= \dfrac{\overset{59}{\cancel{118}}}{\underset{50}{\cancel{100}} \ 25} \times \overset{4536}{\cancel{9072}}$

$= \dfrac{267624}{25}$

$= ₹\ 10704.96$

Cost of 1 shirt for customer $= \dfrac{10704.96}{12}$

$= ₹\ 892.08$

Total profit earned by Shweta $= 10704.96 - 8400$

$= ₹\ 2304.96$

7a. C.P. of computer $= ₹\ 38000$

GST = 8%.

Sale price of computer $= \left(\dfrac{100 + GST}{100}\right) \times C.P.$

$= \left(\dfrac{100 + 8}{\cancel{100}}\right) \times 380\cancel{00}$

$= 108 \times 380$

$= ₹\ 41040$

b. | C.P. of sofa set = ₹ 12600
GST = 6%.
S.P. of sofa set = $\left(\dfrac{100 + GST}{100}\right)$ C.P.

$$= \left(\dfrac{100 + 6}{100}\right) \times 12600$$

$$= 106 \times 126$$
$$= ₹ 13356$$

8. | C.P. of washing machine = ₹ 45000
D = 15%.
Price of washing machine after discount

$$= \left(\dfrac{100 - D\%}{100}\right) C.P.$$

$$= \left(\dfrac{100 - 15}{100}\right) 45000$$

$$= 85 \times 450$$
$$= ₹ 38250$$

GST = 12%.
S.P. of washing machine including GST

$$= \left(\dfrac{100 + 12}{100}\right) \times 38250$$

$$= \dfrac{\overset{56}{\cancel{112}}}{\underset{1}{\cancel{100}} \cancel{5}} \times \overset{765}{\cancel{3825}}$$

$$= ₹ 42840$$