

$$\Rightarrow \frac{1}{2} \times \frac{1}{3} \times \frac{k}{5} = 1 \Rightarrow k = 30$$

195. 1; Product of the numbers

$$= \text{HCF} \times \text{LCM} = 21 \times 4641$$

$$= 21 \times 3 \times 7 \times 13 \times 17 = 3 \times 7 \times 3 \times 7 \times 13 \times 17$$

\therefore The numbers can be

$$3 \times 7 \times 13 \text{ and } 3 \times 7 \times 17 \text{ ie } 273 \text{ and } 357$$

196. 2; If price of a commodity is Rs 100 per unit and consumption is 100 units, then the expenditure incurred = Rs (100 \times 100)

$$= \text{Rs } 10000$$

If the price becomes Rs 90 per unit and consumption becomes 110 units, then the expenditure incurred.

$$= \text{Rs } (90 \times 110) = \text{Rs } 9900$$

\therefore Change in expenditure = - (Rs 100), ie (-1%)

$$\therefore K = -1$$

197. 3; Total annual income

$$= 3 \times 2200 + 4 \times 2250 + 5 \times 3120 + 1260$$

$$= 6600 + 9000 + 15600 + 1260$$

$$= 32460$$

$$\therefore \text{Average monthly income} = \frac{32460}{12} = \text{Rs } 2705$$

198. (None): Let the passengers in AC sleeper class, 1st class and sleeper class be x , $2x$ and $3x$ respectively and the fares in these classes be $5y$, $4y$ and $2y$ respectively.

Hence the incomes from these classes are $5xy$, $8xy$, $6xy$ respectively, ie in the ratio $5 : 8 : 6$.

$$\therefore \text{Required income} = \frac{5}{19} \times 54000 = \text{Rs } 14210$$

199. 3; Let the quantity of pure milk be x kg.

If 5 litres of water is added to it, then the cost of $(5 + x)$ litres = Rs $3x$

SP of $(5 + x)$ litres = Rs $(3x + 15)$

\therefore Profit = Rs 15

Given: 20% of $3x = 15$

$$\Rightarrow \frac{3x}{5} = 15 \Rightarrow x = 25$$

\therefore The amount of pure milk in the mixture was 25 kg.

200. 2; Suppose quantity of pure aftershave lotion = 5 kg
Suppose quantity of pure water = 3 kg

\therefore Total quantity of the mixture = 8 kg

Suppose x kg of mixture is taken out of 8 kg of mixture.

\therefore Amount of aftershave lotion

$$\text{left} = \left(5 - \frac{5x}{8}\right) \text{kg}$$

$$\text{Amount of water left} = \left(3 - \frac{3x}{8}\right) \text{kg}$$

\therefore Amount of water after adding x kg of water

$$\text{becomes} \left(3 - \frac{3x}{8} + x\right) \text{kg} = \left(3 + \frac{5x}{8}\right) \text{kg}$$

By given condition

$$5 - \frac{5x}{8} = 3 + \frac{5x}{8}$$

$$\Rightarrow \frac{10x}{8} = 2 \Rightarrow x = \frac{8}{5}$$

$$\Rightarrow \frac{1}{5} \text{ of the } 8 \text{ kg mixture is taken out.}$$