

(4) (a)

Bata shoe company has 50,000 pairs of shoes and management likes to supply these pairs of shoes to four wholesales dealers in the ratio of 4:7:9:5. How much pair of shoes should each dealer receive?

Solutions

Given:

Available pairs of shoes = 50,000

No. of wholesale dealers = 4

Calculations:

Let the wholesale dealers be = A, B, C, D

A : B : C : D

4 : 7 : 9 : 5

parts = $4 + 7 + 9 + 5 = 25$

shoes received by 'A' = $\frac{\text{ratio of 'A'}}{\text{parts}} \times \text{pairs to be distributed}$

$$A = \frac{4}{25} \times 50,000$$

$$\boxed{A = 8000}$$

$$\text{shoes pairs received by "B"} = \frac{7}{25} \times 50,000$$

$$\boxed{B = 14000}$$

$$\text{shoes pairs received by "C"} = \frac{9}{25} \times 50,000$$

$$\boxed{C = 18000}$$

$$\text{shoes pairs received by "D"} = \frac{5}{25} \times 50,000$$

$$\boxed{D = 10,000}$$

Hence, the shoes pairs received by each dealer are 8000, 14000, 18000 and 10,000 respectively.

b)
If 20 men can prepare 10 office tables
in a day. How many men are
required to prepare 25 such
tables in a day?

Solution

Men required to make 10 tables = 20
Men required to make 25 tables = x

$$20 : x = 10 : 25$$

$$\frac{20}{x} = \frac{10}{25}$$

By cross-multiplying

$$10x = 20 \times 25$$

$$10x = 500$$

$$x = \frac{500}{10}$$

$$x = 50$$

So, 50 men are required to make

25 tables.

© If ~~20~~ 15 dozen of eggs cost Rs. 202.50.
How much will 8 dozen eggs cost?

Solution

cost of 15 dozen eggs = Rs 202.50

cost of 8 dozen eggs = x

Let the cost of 8 dozen eggs be x

$$15 : 8 :: 202.50 : x$$

$$\frac{15}{8} = \frac{202.50}{x}$$

$$15x = 8(202.50)$$

$$15x = 1620$$

$$x = \frac{1620}{15}$$

$$x = 18$$

so, the price of 8 dozen eggs is Rs. 18.

d) A production manager plans to produce 100 units with the help of 25 workers who work 4 hours a day. How many units can be made by 40 workers if they work 3 hours/day?

Solution

By Using Arrow Method

Workers	Time hours	Units
25 ↑	4 ↑	100 ↑
40 ↓	3 ↑	x ↑

$$\frac{x}{100} = \frac{25}{40} \times \frac{3}{4}$$

$$\frac{x}{100} = \frac{40}{25} \times \frac{3}{4}$$

$$\frac{x}{100} = \frac{2}{5} \times \frac{3}{1}$$

$$x = \frac{6}{5} \times 100$$

$$x = 120 \text{ units}$$

So, 40 workers will produce 120 units by working 3 hours / day.