(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 recieve?

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 recieved by "A" = $\frac{\text{ratio of 'A'}}{\text{parts}}$ × pairs to be distribute

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

$$\boxed{A = 8000}$$

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

$$\boxed{B = 14000}$$

Shoes pairs received by 'C' $= \frac{9}{25} \times 50{,}000$

$$\boxed{C = 18000}$$

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

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

Hence, the shoes pairs recieved 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

$10x = 20 \times 25$

$10x = 500$

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

$\boxed{x = 50}$

So, 50 men are required to make 25 tables.

(c) If 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 = ?

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

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

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

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

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

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

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

Good attempt!