

Chapter 10: Unitary Method Exercise – 10.1

Question: 1

20 chocolates cost Rs 320. Find the cost of 35 such chocolates.

Solution:

Cost of 20 chocolates = Rs 320

Cost of 1 chocolate = Rs $(320/20)$

Therefore, the cost of 35 chocolates = Rs $((320/20) \times 35)$ = Rs 560

Question: 2

The cost of 40 meters of cloth is Rs 200. Find the cost of 50 meters of cloth.

Solution:

Cost of 40 meters of cloth = Rs 200

Cost of 1 meter of cloth = Rs $(200/40)$

Therefore, the cost of 50 chocolates = Rs $((200/40) \times 50)$ = Rs 250

Question: 3

A car can cover a distance of 522 km on 36 liters of petrol. How far can it travel on 14 litres of petrol?

Solution:

Number of kilometers a car can cover by using 36 liters = 522 km

Number of kilometers a car can cover by using 1 liter = $522/36$ km

Hence, the number of kilometers a car can cover by using 14 liters = $((522/36) \times 14)$ km = 203 km

Question: 4

Travelling 900 km by rail costs Rs 280. What would be the fare for a journey of 360 km when a person travels by the same class?

Solution:

Cost of travelling 900 km by rail = Rs 280

Cost of travelling 1 km by rail = Rs $(280/900)$

Hence, Cost of travelling 360 km by rail = Rs $(280/900) \times 360$ = Rs 112

Question: 5

If 6 oil tankers can be filled by a pipe in $4\frac{1}{2}$ hours, how long does the pipe take to fill 4 such oil tankers?

Solution:

Time taken by 6 oil tankers to be filled by a pipe = $4\frac{1}{2}$ hours = $\frac{9}{2}$ hours

Time taken by 1 oil tankers to be filled by a pipe = $\frac{9}{6}$ hours

Hence, the time taken by 4 oil tankers to be filled by a pipe = $\frac{9}{12} \times 4$ hours = 3 hours

Question: 6

3/4 of the salary per month is Rs 600. What is the salary per month?

Solution:

Let the salary be 'x'

Given,

$\frac{3}{4}$ of the salary per month is Rs 600

- $\frac{3}{4} \times x = \text{Rs } 600$
- $x = \text{Rs } 600 \times \frac{4}{3}$
- $x = \text{Rs } 800$

Therefore, the salary per month is Rs 800

Question: 7

The cost of 32 tables is Rs 23520. Find the number of such tables that can be purchased for Rs 51450.

Solution:

Number of tables bought for Rs 23520 = 32

Number of tables bought for Re 1 = $32/23520$

Number of tables bought for Rs 51450 = $(32/23520) \times 51450 = 70$

Question: 8

The yield of wheat from 6 hectares is 280 quintals. Find the number of hectares required for a yield of 225 quintals.

Solution:

Number of hectares required for a yield of 280 quintals = 6 hectares

Number of hectares required for a yield of 1 quintal = $6/280$ hectares

Hence, the number of hectares required for a yield of 225 quintals = $6/280 \times 225$ hectares = $4(23/28)$ hectares

Question: 9

Fifteen post cards cost Rs 2.25. What will be the cost of 36 post cards? How many postcards can we buy in Rs 45?

Solution:

Cost of 15 post cards = Rs 2.25

Cost of 1 post card = Rs $\frac{2.25}{15}$

Cost of 36 post cards = Rs $\frac{2.25}{15} \times 36 = \text{Rs } 5.4$

As we know,

Number of postcards bought at Rs 2.25 = 15

Number of postcards bought at Re 1 = $\frac{15}{2.25}$

Number of postcards bought at Rs 45 = $\frac{15}{2.25} \times 45 = 300$

Question: 10

A rail journey of 75 km costs Rs 215. How much will a journey of 120 km cost?

Solution:

Cost of a rail journey of 75 km = Rs 215

Cost of a rail journey of 1 km = Rs $215/75$

Cost of a rail journey of 120 km = Rs $215/75 \times 120$ = Rs 344

Question: 11

If the sales tax on a purchase worth Rs 60 is Rs 4.20. What will be the sales tax on the purchase worth of Rs 150?

Solution:

Sales tax on the purchase worth of Rs 60 = Rs 4.20

Sales tax on the purchase worth of Re 1 = Rs $4.20/60$

Sales tax on the purchase worth of Rs 150 = Rs $(4.20/60) \times 150$ = Rs 10.50

Question: 12

52 packets of 12 pencils each, cost Rs 499.20. Find the cost of 65 packets of 10 pencils each.

Solution:

Total number of pencils in 52 packets of 12 pencils each = 52×12 = 624

Cost of 624 pencils = Rs 499.20

Cost of 1 pencil = Rs $499.20/624$

Now,

Number of pencils in 65 packets of 10 pencils each = 65×10 = 650 pencils

Therefore, cost of 650 pencils = Rs $(499.20/624) \times 650$ = Rs 520.