1. If 15 oranges cost ₹110, what do 39 oranges cost?
   **Solution:**
   From the question,
   Cost of 15 oranges = ₹110
   Cost of 1 orange = ₹ \( \frac{110}{15} \)
   ∴ Cost of 39 oranges = ₹ \( \frac{110}{15} \times 39 \)
   = ₹ 286

2. If 8 kg sugar costs ₹260, how much sugar can be bought for ₹877.50?
   **Solution:**
   From the question,
   Amount of sugar bought for ₹260 = 8 kg
   Amount of sugar bought for ₹1 = \( \frac{8}{260} \) kg
   ∴ Amount of sugar bought for ₹877.50 = \( \frac{8}{260} \times 877.50 \)
   = 27 kg

3. The cost of 37 m of silk is ₹6290. What length of this silk can be purchased for ₹4420?
   **Solution:**
   From the question,
   The length of silk purchased for ₹6290 = 37 m
   The length of silk purchased for ₹1 = \( \frac{37}{6290} \) m
   ∴ The length of silk purchased for ₹4420 = \( \frac{37}{6290} \times 4420 \)
   = 26 m

4. A worker is paid ₹1110 for 6 days. If his total wages during a month are ₹4625, for how many days did he work?
   **Solution:**
   From the question,
   Worker is paid ₹1110 for = 6 days
   Worker is paid ₹1 for = \( \frac{6}{1110} \) days
   Worker is paid ₹4625 for = \( \frac{6}{1110} \times 4625 \)
   = 25 days
   ∴ Worker worked for 25 days and he paid ₹4625.

5. A car can cover a distance of 357 km on 42 liters of petrol. How far can it travel on 12 liters of petrol?
   **Solution:**
   From the question,
   The distance covered by car on 42 liters of petrol = 357 km
   The distance covered by car on 1 liter of petrol = \( \frac{357}{42} \) km
   ∴ The distance covered by car on 12 liters of petrol = \( \frac{357}{42} \times 12 \)
   = 102 km
6. Travelling 900 km by rail costs ₹ 2520. What would be the fare for a journey of 360 km when a person travels by the same class?

Solution:
From the question,
The total cost of travelling 900 km by rail = ₹ 2520
The cost of travelling 1 km by rail = ₹ \left( \frac{2520}{900} \right)
∴ The cost of travelling 360 km by rail = \left( \frac{2520}{900} \right) \times 360
= ₹ 1008

7. A train covers a distance of 51 km in 45 minutes. How long will it take to cover 221 km?

Solution:
From the question,
Time taken by the train to covers a distance of 51 km = 45 minutes
Time taken by the train to cover a distance of 1 km = \left( \frac{45}{51} \right) minutes
∴ Time taken by the train to cover 221 km = \left( \frac{45}{51} \right) \times 221
= 195 minutes
∴ Time taken by the train to cover 221 km is 3 hours 15 minutes
1. If 48 men can dig a trench in 14 days, how long will 28 men take to dig a similar trench?

Solution:
From the question,
48 men can dig a trench in 14 days
1 man can dig a trench in = (14 × 48) days  ... [less men, more days]
∴ 28 men can dig a similar trench in = (14 × 48)/ 28
= 24 days  ... [More men, less days]
Hence, the required number of days for 28 men to dig a trench = 24.

2. 16 men can reap a field in 30 days. How many men must be engaged to reap the same field in 24 days?

Solution:
From the question,
16 men can reap a field in 30 days
1 man can reap a field in = (16 × 30) days  ... [less men, more days]
∴ Number of men required to reap a field in 24 days = (16 × 30) / 24
= 20 men  ... [More men, less days]
Hence, 20 men required to reap a field in 24 days.

3. 45 cows can graze a field in 13 days. How many cows will graze the same field in 9 days?

Solution:
45 cows can graze a field in 13 days
1 cow can graze a field in = (45 × 13) days  ... [less cows, more days]
∴ Number of cows required to graze a field in 9 days = (45 × 13)/ 9
= 65 cows  ... [More cows, less days]
Hence, 65 cows required to graze a field in 9 days.

4. 16 horses can consume a certain quantity of corn in 25 days. In how many days would the same quantity be consumed by 40 horses?

Solution:
From the question,
16 horses can consume a certain quantity of corn in 25 days
1 horse can consume a certain quantity of corn = (16 × 25)
∴ Number of days taken by 40 horses to consume same quantity of corn = (16 × 25) / 40
= 10 days

5. A girl can finish a book in 25 days if she reads 18 pages of it every day. How many days will she take to finish it, if she reads 15 pages every day?

Solution:
From the question,
Number of days taken to finish the book if she reads 18 pages every day = 25
Number of days taken to finish the book if she read 1 page every day = (18 × 25)
∴ Number of days taken to finish the book if she reads 15 pages every day = (18 × 25)/ 15
= 30 days

6. Reeta types 40 words per minute and takes 24 minute to type a certain document. Her friend Geeta has a typing speed of 48 words per minute. In how much time, will she be able to type the same document?
Solution:-
From the question,
Reeta types 40 words per minute in = 24 minutes
Reeta type a word per minute = (24 × 40) minutes
∴ Time taken to type 48 words per minute = (24 × 40) / 48
= 20 minutes
Hence, Geeta will take 20 minutes to type the same document, if her typing speed is 48 words per minute.
EXERCISE 9C

Mark against the correct answer in each of the following:

1. If 4.5 m of a uniform rod weighs 17.1 kg, what is the weight of 12 m of such a rod?
   (a) 51.2 kg  (b) 53 kg  (c) 45.6 kg  (d) 56 kg
   Solution:-
   (c) 45.6 kg
   Because,
   4.5 m of a uniform rod weighs = 17.1 kg
   1 m of rod weighs = (17.1/4.5)
   ∴ 12 m of such rod weighs = (17.1/4.5) × (12)
   = 45.6 kg

2. In a map, 0.8 cm represents 8.8 km. How much distance will be represented by 80.5 cm?
   (a) 805 km  (b) 855.5 km  (c) 644 km  (d) none of these
   Solution:-
   (d) None of these
   Because,
   From the question,
   In a map 0.8 cm represents = 8.8 km
   In a map 1 cm represents = (8.8/0.8) km
   ∴ 80.5 cm represents = (8.8/0.8) × 80.5
   = 855.5 km

3. In a race, Raghu covers 5 km in 20 minutes, how much distance will he cover in 50 minutes?
   (a) 10.5 km  (b) 12 km  (c) 12.5 km  (d) 13.5
   Solution:-
   (c) 12.5 km
   Because,
   Distance covered by Raghu in 20 minutes = 5 km
   Distance covered by Raghu in 1 minutes = (5/20) km
   ∴ Distance covered by Raghu in 50 minutes = (5/20) × 50
   = 12.5 km

4. A garrison of 500 men had provisions for 24 days. However, a reinforcement of 300 men arrived. The food will now last for
   (a) 18 days  (b) 17(1/2) days  (c) 16 days  (d) 15 days
   Solution:-
   (d) 15 days
   Because,
   A garrison of 500 men had enough food for = 24 days
   1 men had enough food for = (24 × 500)
   ∴ 800 men had enough food for = (24 × 500) / 800
5. If \(\frac{4}{5}\) of a cistern is filled in 1 minute, how much more time will be required to fill the rest of it?

(a) 20 seconds  
(b) 15 seconds  
(c) 12 seconds  
(d) 10 seconds

Solutions:

(b) 15 seconds

Because,

\(\frac{4}{5}\) of a cistern is filled in = 1 minute

1 cistern is filled in = \(\frac{1}{\frac{4}{5}}\) = \(\frac{5}{4}\)

\(\therefore\) \(\frac{1}{5}\) of a cistern is filled in = \(\frac{5}{4} \times \frac{1}{5}\)

= \(\frac{1}{4}\) minutes

= 15 seconds

6. If 21 cows eat as much as 15 buffaloes, how many cows will eat as much as 35 buffaloes?

(a) 49  
(b) 56  
(c) 45  
(d) none of these

Solution:

(a) 49

Because,

The total number of cows eat as much as 15 buffaloes = 21

The total number of cows eat as much as 1 buffaloes = \(\frac{21}{15}\)

\(\therefore\) the total number of cows eat as much as 35 buffaloes = \(\frac{21}{15} \times 35\)

= 49 cows

7. A tree, 6 m tall, casts a 4 m long shadow. At the same time a flag pole casts a 50 m long shadow. How long is the flag pole?

(a) 50 m  
(b) 75 m  
(c) 33\(\frac{1}{3}\) m  
(d) none of these

Solution:

(b) 75 m

Because,

A tree casts 4 m long shadow and its height = 6 m

A tree casts 1 m long shadow and its height = \(\frac{6}{4}\) m

\(\therefore\) A flag pole casts a 50 m long shadow and its height = \(\frac{6}{4} \times 50\)

= 75 m tall

8. 8 men can finish a piece of work in 40 days. If 2 more men join them, the work will be completed in

(a) 30 days  
(b) 32 days  
(c) 36 days  
(d) 25 days

Solution:

(b) 32 days

Because,

8 men can finish a piece of work in = 40 days

1 man can finish a piece of work in = \(8 \times 40\)

If 2 more men join them, i.e. 10 men can finish a work in = \(\frac{8 \times 40}{10}\)

= 32 days