

Exercise 9B

Q1

Answer:

48 men can dig a trench in 14 days.

1 man can dig the trench in 14 \times 48 days.

Therefore, 28 men can dig the trench in $\frac{14 \times 48}{28}$ days = 24 days

[less men, more days]

Hence, 28 men will take 24 days to dig a similar trench.

Q2

Answer:

No. of men required to reap the field in 30 days = 16 No. of men required to reap the field in 1 day = 16 \times 30 (less days, more men) Now, no. of men required to reap the field in 24 days = $\frac{16 \times 30}{24}$ = 20 (more days, less men)

: 20 men are required to reap the field in 24 days.

Read More about Ratio and Proportion

Q3

Answer:

Number of cows that can graze the field in 13 days = 45 Number of cows that can graze the field in 1 day = 45 \times 13 [Less days, more cows] Therefore, number of cows that can graze the field in 9 days = $\frac{45 \times 13}{9}$ = 65 [More days, less cows]

Hence, 65 cows can graze the field in 9 days.

04

Answer:

Time taken by 16 horses to consume the corn = 25 days

Time taken by 1 horse to consume the corn = 25×16 [less horses, more time taken] Time taken by 40 horses to consume the corn = $\frac{25 \times 16}{40}$ = 10 days [more horses, less time taken]

Hence, 40 horses would consume the same quantity of corn in 10 days.

Q5

Answer:

Days taken to finish the book if 18 pages are read everyday = 25

Days taken to finish the book if 1 page is read everyday = 18×25 [less pages, more days]

Now, days taken to finish the book if 15 pages are read everyday = $\frac{18 \times 25}{15}$ = 30 [more pages, less days]

Hence, the girl will take 30 days to finish the book if she reads 15 pages everyday.

Q6

Answer:

Time taken to type 40 words per minute = 24 min

Time taken to type a word per minute = 24×40 min

Now, time taken to type 48 words per minute = $\frac{24 \times 40}{48}$ = 20 min

Hence, Geeta will take 20 minutes to type the same document if her typing speed is 48 words/min.

Q7

Answer:

Time taken to cover the distance at a speed of 45 km/h = 3 h 20 min = 200 min

Time taken to cover the distance at a speed of 1 km/h = 45 \times 3.33 min

[less speed, more time]

Time taken to cover the distance at a speed of 36 km/h = $\frac{45 \times 3.33}{36}$ = 4.1625 h \approx 4 h 10 min

Hence, the bus will take 4 h 10 min to cover the distance if its speed is 36 km/h.

Q8

Answer:

Time taken to make 240 tonnes of steel = 30 days

Time taken to make 1 tonne of steel = 30×240 days

Now, time taken to make 300 or (240 + 60) tonnes of steel = $\frac{30 \times 240}{300}$ = 24 days

:. The materials will last for 24 days if 60 more tonnes of steel is to be made that month.

Q9

Answer:

Initially, the contractor had 210 men for 60 days. After 12 days, 70 more men joined.

210 men can finish the work in 48 days 1 man can finish the work in 210×48 days Now, 280 men can finish the work in $\frac{210\times48}{280}$ days = 36 days.

Hence, it will take 36 days to finish the remaining work.

Q10

Answer:

No. of men for which the provision will last for 25 days = 360 No. of men for which the provision will last for 1 day = 360×25 Now, no. of men for which the provision will last for 30 days = $\frac{360 \times 25}{30}$ = 300

 \pm 60 men, i.e., (360 – 300), must be transferred to another camp so that the provision lasts for 30 days.

11

Answer:

Number of days for which the food is sufficient for 120 men = 195 Number of days for which food is sufficient for 1 man = 120×195 Number of days for which food is sufficient for 90 men = $\frac{120 \times 195}{90}$ = 260

Hence, the food will last for 260 days.

Q12

Answer:

We are given that in a fort, 1200 soldiers had enough food for 28 days. Let x soldiers left after 4 days, thus, remaining soldiers = 1200 - x Now, for these remaining soldiers food lasts for 32 days. As number of soldiers decrease, food lasts long.

Thus, situation after 4 days is $1200 \times 24 = (1200 - x) \times 32$ $\Rightarrow (1200 - x) = \frac{1200 \times 24}{32}$ $\Rightarrow 1200 - x = 900$ $\Rightarrow x = 1200 - 900$ $\Rightarrow x = 300$

Thus 300 soldiers left the fort after 4 days

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