

### EXERCISE 14(E)

1. From a rope of  $10\frac{1}{2}$  m long,  $4\frac{5}{8}$  m is cut off. Find the length of the remaining rope

**Solution:**

Given

$$\text{Length of the rope} = 10\frac{1}{2} \text{ m}$$

$$\text{Length of cut off rope} = 4\frac{5}{8} \text{ m}$$

$$\text{Remaining rope} = 10\frac{1}{2} - 4\frac{5}{8}$$

We get

$$= 21/2 - 37/8$$

By taking LCM, we get

$$= (84 - 37) / 8$$

$$= 47 / 8 \text{ m}$$

$$= 5\frac{7}{8}$$

Hence, the length of the remaining rope is  $5\frac{7}{8}$  m

2. A piece of cloth is 5 metre long. After washing, it shrinks by  $1/25$  of its length. What is the length of the cloth after washing?

**Solution:**

Given

$$\text{Length of piece of cloth} = 5 \text{ metre}$$

$$\text{After washing, it shrinks by} = 1/25 \text{ of its length}$$

Hence, the shrunk cloth can be calculated as below

$$\text{Shrunk cloth} = 1/25 \text{ of } 5 \text{ m}$$

$$= 1/5 \text{ m}$$

Hence, length of cloth after washing can be calculated as below

$$\text{Length of cloth after washing} = 5 - 1/5$$

By taking LCM, we get

$$= (25 - 1) / 5$$

$$= 24 / 5$$

$$= 4\frac{4}{5} \text{ m}$$

Hence the length of cloth after washing is  $4\frac{4}{5}$  m

**3. I bought wheat worth Rs  $12\frac{1}{2}$ , rice worth Rs  $25\frac{3}{4}$  and vegetables worth Rs  $10\frac{1}{4}$ . If I gave a hundred-rupee note to the shopkeeper; how much did he return to me**  
**Solution:**

Given

$$\text{Wheat} = \text{Rs } 12\frac{1}{2}$$

$$\text{Rice} = \text{Rs } 25\frac{3}{4}$$

$$\text{Vegetables} = \text{Rs } 10\frac{1}{4}$$

Hence, total amount used to purchase the goods can be calculated as below

$$\text{Total amount of goods} = \text{Rs } \left( 12\frac{1}{2} + 25\frac{3}{4} + 10\frac{1}{4} \right)$$

We get

$$= 25 / 2 + 103 / 4 + 41 / 4$$

$$= \text{Rs } 194 / 4$$

Hence, money returned by shopkeeper can be calculated as below

$$\text{Money returned} = \text{Rs } (100 - 194 / 4)$$

By taking LCM, we get

$$= \text{Rs } (400 - 194) / 4$$

$$= \text{Rs } 103 / 2$$

$$= \text{Rs } 51\frac{1}{2}$$

$$\text{Hence, money returned by the shopkeeper is Rs } 51\frac{1}{2}$$

**4. Out of 500 oranges in a box,  $3 / 25$  are rotten and  $1 / 5$  are kept for some guests. How many oranges are left in the box?**

**Solution:**

Given

$$\text{Number of oranges in a box} = 500$$

$$\text{Rotten oranges out of 500} = 3 / 25$$

$$\text{Oranges for guests out of 500} = 1 / 5$$

$$\text{Rotten oranges} = 3 / 25 \text{ of } 500$$

We get,

$$= 3 / 25 \times 500$$

$$= 60$$

$$\text{Oranges for guests} = 1 / 5 \text{ of } 500$$

We get,

$$= 1 / 5 \times 500$$

$$= 100$$

$$\text{Oranges left in box} = 500 - 60 - 100$$

$$= 340$$

Hence, 340 oranges are left in the box

**5. An ornament piece is made of gold and copper. Its total weight is 96 g. If  $1 / 12$  of the ornament is copper, find the weight of gold in it.**

**Solution:**

Given

$$\text{Weight of an ornament} = 96 \text{ g}$$

$$\text{Weight of copper} = 1 / 12 \text{ of } 96 \text{ g}$$

$$\text{Weight of copper} = 1 / 12 \times 96$$

We get,

$$= 8 \text{ g}$$

$$\text{Weight of gold} = 96 - 8$$

$$= 88 \text{ g}$$

Hence, the weight of gold in ornament is 88 g

**6. A girl did half of some work on Monday and one-third of it on Tuesday. How much will she have to do on Wednesday in order to complete the work?**

**Solution:**

Given

Half of work is done on Monday and one-third on Tuesday by a girl

Let total work done by a girl is 1

$$\text{Work done on Monday} = 1 / 2$$

$$\text{Work done on Tuesday} = 1 / 3$$

Hence, remaining work done on Wednesday to complete the work is calculated as below

$$\text{Remaining work done} = 1 - [(1 / 2 + 1 / 3)]$$

Taking LCM, we get

$$= 1 - [(3 + 2) / 6]$$

$$= 1 - 5 / 6$$

$$= (6 - 5) / 6$$

$$= 1 / 6$$

Hence, work done by a girl on Wednesday to complete is  $1 / 6$

**7. A man spends  $3 / 8$  of his money and still has Rs 720 left with him. How much money did he have at first?**

**Solution:**

Given

Man spends  $3/8$  of his money

Let us assume a man has Rs 1

Amount spent =  $3/8$  of 1

We get,

$$= \text{Rs } 3/8$$

Amount left =  $1 - 3/8$

We get,

$$= (8 - 3) / 8$$

$$= \text{Rs } 5/8$$

Since  $5/8$  of his total money = Rs 720

$$\therefore \text{Total money} = \text{Rs } (720 \times 8) / 5$$

$$= \text{Rs } 5760 / 5$$

$$= \text{Rs } 1152$$

Hence, total money a man has is Rs 1152

**8. In a school,  $4/5$  of the students are boys, and the number of girls is 100. Find the number of boys**

**Solution:**

Given

Total number of girls = 100

Number of boys =  $4/5$

Let us assume the total number of boys and girls be  $x$

Total number of boys =  $4/5$  of  $x$

We get,

$$= 4x / 5$$

According to question, total strength of school can be calculated as below

$$x - (4x/5) = 100$$

$$(5x - 4x)/5 = 100$$

$$x = 500$$

Number of boys = Total strength – Girls

$$= 500 - 100$$

$$= 400$$

Hence number of boys are 400

**9. After finishing  $3/4$  of my journey, I find that 12 km of my journey is covered. How much distance is still left to be covered?**

**Solution:**

Let  $x$  km be the total journey

Given that total distance covered =  $\frac{3}{4}$  of the journey is 12 km

According to the question, the distance covered can be calculated as below

$$\frac{3}{4} \text{ of } x = 12 \text{ km}$$

$$x = \frac{4}{3} \times 12$$

$$x = 4 \times 4$$

$$x = 16 \text{ km}$$

$$\text{Remaining distance} = 16 - 12$$

$$= 4 \text{ km}$$

Hence, 4 km of distance is left to be covered

**10. When Ajit travelled 15 km, he found that one-fourth of his journey was still left. What was the full length of the journey?**

**Solution:**

Let the total journey =  $x$  km

Given total distance covered = 15 km

Journey left =  $\frac{1}{4}$  of  $x$

Hence, according to the question, the total distance of journey can be calculated as below

$$\frac{1}{4} \text{ of } x = x - 15$$

$$x - \frac{x}{4} = 15$$

By calculating further, we get

$$\frac{(4x - x)}{4} = 15$$

$$\frac{3x}{4} = 15$$

$$3x = 60$$

$$x = 60 / 3$$

$$x = 20$$

Hence, the full length of the journey is 20 km

**11. In a particular month, a man earns Rs 7, 200. Out of this income, he spends  $\frac{3}{10}$  on food,  $\frac{1}{4}$  on house rent,  $\frac{1}{10}$  on insurance and  $\frac{2}{25}$  on holidays. How much did he save in that month?**

**Solution:**

Given

Money earned by a man in a particular month = Rs 7200

Amount spend on food, house rent, insurance and holidays by him are  $\frac{3}{10}$ ,  $\frac{1}{4}$ ,  $\frac{1}{10}$  and  $\frac{2}{25}$  respectively

Amount spend on food =  $\frac{3}{10}$  of 7200

$$= \frac{3}{10} \times 7200$$

$$= 3 \times 720$$

$$= \text{Rs } 2160$$

Amount spend on house rent =  $1 / 4$  of 7200

$$= 1 / 4 \times 7200$$

$$= \text{Rs } 1800$$

Amount spend on insurance =  $1 / 10$  of 7200

$$= 1 / 10 \times 7200$$

$$= \text{Rs } 720$$

Amount spend on holidays =  $2 / 25$  of 7200

$$= 2 / 25 \times 7200$$

$$= \text{Rs } 576$$

Total amount spend = Rs (2160 + 1800 + 720 + 576)

$$= \text{Rs } 5256$$

Amount saved by man =  $7200 - 5256$

$$= \text{Rs } 1944$$

Hence, amount saved by a man in a month is Rs 1944

