

EXERCISE 11.5

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1. What percent of

(i) 24 is 6?

(ii) Rs 125 is Rs 10?

(iii) 4km is 160 meters?

(iv) Rs 8 is 25 paise?

(v) 2 days is 8 hours?

(vi) 1 liter is 175ml?

Solution:

(i) According to the question required percentage = $(6/24) \times 100$
= $(100/4)$
= 25%

(ii) According to the question required percentage = $(10/125) \times 100$
= $(1000/125)$
= 8%

(iii) According to the question required percentage = $(160/4) \times 100$
We know that 1km = 1000 meters
Therefore 4km = 4000 meters
= $(160/4000) \times 100$
= 4%

(iv) According to the question required percentage = $(25/8) \times 100$
We know that 1Rs = 100 paise
Therefore 8Rs = 800 paise
= $(25/800) \times 100$
= $(25/8)$
= 3.125%

(v) We know that 1day = 24 hours
1 hour = $(1/24)$ day
8 hours = $(8/24)$ day = $(1/3)$ day
According to the question required percentage = $[(1/3)/2] \times 100$

$$= 100/6$$
$$= 16 \frac{2}{3} \%$$

(vi) We know that 1liter = 1000ml

$$\text{According to the question required percentage} = (175/1000) \times 100$$
$$= 17500/1000$$
$$= 17.50 \%$$

2. What percent is equivalent to (3/8)?

Solution:

$$\text{Given } (3/8)$$
$$= (3/8) \times 100$$
$$= 37.5\%$$

3. Find the following:

- (i) 8 is 4% of which number?
- (ii) 6 is 60% of which number?
- (iii) 6 is 30% of which number?
- (iv) 12 is 25% of which number?

Solution:

(i) Let x be the required number
Given that 4% of x = 8

$$(4/100) \times x = 8$$
$$x = (800/4)$$
$$x = 200$$

(ii) Let the required number be x
Given that 60% of x = 6

$$(60/100) \times x = 6$$
$$x = (60/6)$$
$$x = 10$$

(iii) Let the required number be x
Given that 30% of x = 6

$$(30/100) \times x = 6$$

$$x = (6 \times 100)/30$$

$$x = 20$$

(iv) Let the required number be x

Given that 25% of $x = 12$

$$(25/100) \times x = 12$$

$$x = (12 \times 100)/25$$

$$x = 48$$

4. Convert each of the following pairs into percentages and find out which is more?

(i) 25 marks out of 30, 35 marks out of 40

(ii) 100 runs scored off 110 balls, 50 runs scored off 55 balls

Solution:

(i) Given 25 marks out of 30

$$\text{Consider 25 marks out of 30} = (25/30) \times 100$$

$$= (250/3)$$

$$= 83.33\%$$

Also given that 35 marks out of 40

$$\text{Now consider 35 marks out of 40} = (35/40) \times 100$$

$$= 87.5\%$$

Clearly $87.5 > 83.33$

After converting into percentage 35 marks out of 40 = 87.5% is more

(ii) Given 100 runs scored off 110 balls

$$\text{Consider 100 runs scored off 110 balls} = (100/110) \times 100$$

$$= 90.91\%$$

Also given that 50 runs scored off 55 balls

$$\text{Consider 50 runs scored off 55 balls} = (50/55) \times 100$$

$$= 90.91\%$$

Here both are equal

5. Find 20% more than Rs.200.

Solution:

$$\text{Consider 20% of 200} = (20/100) \times 200$$

$$= \text{Rs } 40$$

Therefore 20% more than Rs 200 = $200 + 40$
= Rs 240

6. Find 10% less than Rs.150

Solution:

Consider 10% of 150 = $(10/100) \times 150$
= Rs 15

Therefore 10% less than Rs 150 = $150 - 15$
= Rs 135



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