SUB TOPIC: BASIC CONCEPT, TO EXPRESS AN ORDINARY GIVEN STATEMENT AS PERCENT

SUBJECT : MATHEMATICS
CHAPTER NUMBER: 8
CHAPTER NAME : PERCENT AND PERCENTAGE

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LEARNING OUTCOME

- Students will be able to

- **to express an ordinary given statement as percent**.

- To express one quantity as a percent of the other

- To find percentage of a quantity.

Find 2% of 2hours 30 min.

A **percentage** is a number or ratio that can be expressed as a fraction of 100.
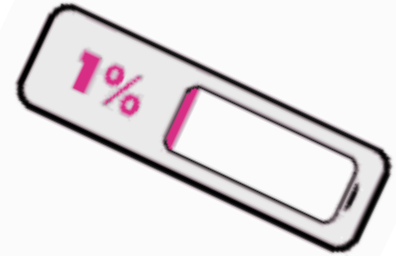
If we have to calculate percent of a number, divide the number by whole and multiply by 100.

Hence, the **percentage means,** a part per hundred.

The word per cent means **per 100**. It represented by the symbol **"%"**.

TO FIND PERCENTAGE OF A QUANTITY

- A percentage is a fraction with denominator as 100 i.e. % = 1,

- Therefore, to determine the exact value of a percent of a given quantity we need to express the given percent as fraction and multiply it by the given number.

1. Deepak bought a basket of mangoes containing 250 mangoes. 12% of these were found to be rotten. Of the remaining, 10% got crushed. How many mangoes were in good condition?

Solution:

Number of mangoes = 250

So the rotten mangoes = 12% of 250

= 250 × 12/100

= 30

Remaining mangoes = 250 – 30 = 220

Mangoes crushed = 10% of 220

= 220 × 10/100

= 22

So the balance number of mangoes = 220 – 22 = 198

Therefore, 198 mangoes were in good condition.

3. In an examination, the maximum marks are 900. A student gets 33% of the maximum marks and fails by 45 marks. What is the passing mark? Also, find the pass percentage.

Solution:

Maximum marks in the exam = 900

A student got 33% of the maximum marks = 900 × 33/100 = 297

Number of marks by which he failed = 45

So the pass marks = 297 + 45 = 342

So the percentage of pass marks = (342 × 100)/ 900 = 38%

6. What is the percentage of vowels in the English alphabet?
Solution:
We know that there are 5 vowels in 26 English alphabets
So the percentage of vowels = (5 × 100)/ 26
We get
= 250/13
= 19 3/13 %

7. (i) 6 ¼ % of what number is 375?

(ii) 0.2% of a number is 5. Find the number.

(iii) 30 is 16 2/3% of a number. Find the number.

Solution:

(i) Consider x as the number

6 ¼ % of x = 375

25/ (4 × 100) of x = 375

So we get

1/16 x = 375

x = (375 × 16)/ 1 = 6000

So the number is 6000.

(ii) Consider x as the number

0.2% of x = 5

2/ (10 × 100) of x = 5

1/500 of x = 5

x = (5 × 500)/ 1 = 2500

So the number is 2500.

iii) Consider x as the number

16 2/3% of x = 30

By further calculation

50/ (3 × 100) of x = 30

So we get

1/6 of x = 30

Here

x = 30 × 6 = 180

So the number is 180.

10. Kumar bought a transistor for ₹ 960. He paid 12 ½ % cash money. The rest he agreed to pay in 12 equal monthly installments. How much will he pay each month?

Solution:

Price of transistor Kumar bought = ₹ 960

Amount paid in cash = 12 ½ % of ₹ 960

We can write it as

= 25/ (2 × 100) × 960

= ₹ 120

So the balance amount = 960 − 120 = ₹ 840

Number of installments = 12

So the amount of each installment = 840/12 = ₹ 70

11. An ore contains 20% zinc. How many kg of ore will be required to get 45 kg of zinc?

Solution:

In an ore

Zinc = 20%

Consider x as the quantity of ore

We can write it as

20% of x = 45 kg

So we get

$20/100 \times x = 45$

Here

$x/5 = 45$

$x = 45 \times 5 = 225$

Hence, the quantity of ore is 225kg.

HOME ASSIGNMENT

- EX8

THANKING YOU
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