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PERCENT AND PERCENTAGE

PERIOD 1

SUBJECT : MATHEMATICS
CHAPTER NUMBER: 7
CHAPTER NAME : PERCENT AND PERCENTAGE

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Learning outcome

Determine the **percentage** of a given object presence within a group of 100 objects

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Exercise-7(A)

1) Evaluate :

(i) 55% of 160 + 24% of 50 – 36% of 150

(ii) 9.3% of 500 – 4.8% of 250 – 2.5% of 240

Exercise-7(A)

(i) 55% of 160 + 24% of 50 – 36% of 150

$$= \frac{55\times160}{100} + \frac{24\times50}{100} - \frac{36\times150}{100}$$

$= 11 \times 8 + 12 - 18 \times 3 = 88 + 12 - 54 = 46$

(ii) 9.3% of 500 – 4.8% of 250 – 2.5% of 240

$$= \frac{9.3\times500}{100} - \frac{4.8\times250}{100} - \frac{2.5\times240}{100}$$

$9.3 \times 5 - 1.2 \times 10 - 0.5 \times 12$

$= 46.5 - 12 - 6 = 46.5 - 18 = 28.5$

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Exercise-7(A)

2) (i) A number is increased from 125 to 150; find the percentage increase.
(ii) A number is decreased from 125 to 100; find the percentage decrease.

Exercise-7(A)

(i) Original value = 125. New value = 150

Increase = (150 – 125) = 25

$$\text{Increase \%} = \frac{25}{125} \times 100 = 20\%$$

(ii) Original number = 125, New value = 100,

Decrease = (125 – 100) = 25

$$\text{Decrease \%} = \frac{25}{125} \times 100 = 20\%$$

Exercise-7(A)

3) Find :

(i) 45 is what percent of 54?

(ii) 2.7 is what percent of 18?

Exercise-7(A)

Let $45 = x$ percent of $54 = \frac{54 \times x}{100}$

$$\Rightarrow x = \frac{45 \times 100}{54} = \frac{5 \times 100}{6}$$

$$= \frac{250}{3} = 83\frac{1}{3}\%$$

$\therefore$ Reqd. percentage $= 83\frac{1}{3}\%$

(ii) Let $2.7 = x$ percent of $18 = \frac{18 \times x}{100}$

$$\therefore x = \frac{2.7 \times 100}{18} = \frac{270}{18} = \frac{30}{2} = 15$$

$\therefore$ Reqd. percentage $= 15\%$

Exercise-7(A)

Question 4.

(i) 252 is 35% of a certain number, find the number.

(ii) If 14% of a number is 315; find the number

Exercise-7(A)

(i) Let the number be x

By the given condition,

$$252 = \frac{x \times 35}{100} = \frac{x \times 7}{20}$$

$$\therefore \quad x = \frac{252 \times 20}{7} = 36 \times 20 = 720$$

Hence reqd. number = 720

(ii) Let the number be x

By the given condition,

$$315 = \frac{x \times 14}{100}$$

$$\therefore \quad x = \frac{315 \times 100}{14} = \frac{45 \times 100}{2} = 45 \times 50 = 2250$$

Hence reqd. number = 2250.

Exercise-7(A)

Question 5.

Find the percentage change, when a number is changed from :

(i) 80 to 100

(ii) 100 to 80

(iii) 6.25 to 7.50

Exercise-7(A)

(i) Original number = 80

New Number = 100,

Change = (100 – 80) = 20

∴ Percentage change (increase)

$$= \frac{20}{80} \times 100 = 25\%$$

(ii) Original number = 100

New number = 80

Change (100 – 80) = 20

$$\therefore \text{Percentage change (decrease)} = \frac{20}{100} \times 100$$

$$= 20\%$$

(iii) Original number = 6.25,

New number = 7.50

Change (Increase) = (7.50 – 6.25) = 1.25

$$\therefore \text{increase} = \frac{1.25}{6.25} \times 100 = 20\%$$

Home Assignment

Exercise 7(A) - 1 to 7

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