

Jender Heart High School, Sec.-33B chd.

Class: VIII

Teacher: Deepu

Subject: Mathematics

Topic: Chapter - 6: Percentage

Percent
 ↙ ↘
 Per + cent
 (out of) (100)

Percentage means out of 100.

- To convert percentage into a fraction, divide the given number by 100.
- To convert fraction into a percent, then multiply by 100.
- To find the percentage of given quantity:
 $x\% \text{ of a given quantity} = \frac{x}{100} \times \text{Given quantity}$

- To express one quantity as a percentage of other quantity

$$x \text{ as a percentage of } y = \left(\frac{x}{y} \times 100 \right) \%$$

- To increase a particular number by a given percentage:

Let the number be x and say 8%.

Then,

1st Method

2nd method

$$\text{Increased number} = x + 8\% \text{ of } x$$

$$= x + \frac{8x}{100}$$

$$= \frac{108x}{100}$$

$$\text{Increased number}$$

$$= 108\% \text{ of } x$$

$$= \frac{108x}{100}$$

- Statement sums based on percentage.
 (Read the statement Very carefully, then do as directed)

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Exercise - 6A

Soln 3 Ratios as a percentage:

(i) 13 : 20

$$\text{Percentage} = \frac{13}{20} \times 100\% \\ = 65\%$$

(iii) 87 : 25

$$\text{Percentage} = \frac{87}{25} \times 100\% \\ = 348\%$$

(ii) 11 : 18

$$\text{Percentage} = \frac{11}{18} \times 100\% \\ = \frac{550}{9}\% = 61\frac{1}{9}\%$$

(iv) $6\frac{1}{4} : 4\frac{3}{8} = \frac{25}{4} : \frac{35}{8}$

$$= \frac{25}{4} \times \frac{8}{35} = \frac{10}{7}$$

$$\text{Percentage} = \frac{10}{7} \times 100\%$$

$$= 142\frac{6}{7}\%$$

Soln 9 (ii) If 7.25% of a number is 2.9, find number
 let the number be x

A.T.Q

$$7.25\% \text{ of } x = 2.9$$

$$\frac{725}{100 \times 100} \times x = \frac{29}{10}$$

$$x = \frac{2.9}{10} \times \frac{100}{725} \times 100$$

$$= 40$$

So, the number is 40, whose 7.25% is 2.9.

Soln 4. Percentage of absentees = 8%.
Number of present student = 1633
Percentage of present student = $(100-8)\% = 92\%$.
Let the number be x .
(Strength)

A.T.Q

$$92\% \text{ of } x = 1633$$

$$\frac{92}{100} \times x = 1633$$

$$x = \frac{1633 \times 100}{92}$$

$$= 1775$$

$$\text{So, the number of absentees} = 1775 - 1633 = 142$$

Soln 10. % increased = 25%.

Let the original price be x

$$\begin{aligned} \text{Increased price} &= x + 25\% \text{ of } x \\ &= x + \frac{25x}{100} = \frac{125x}{100} \end{aligned}$$

$$\text{Decrease in the price to restore it} = \frac{125x}{100} - x$$

$$= \frac{125x - 100x}{100} = \frac{25x}{100}$$

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

Soln 12. % increased = 20%.

Let the original price be x

$$\text{Increased price} = 20\% \text{ of } x + x = \frac{20x}{100} + x = \frac{120x}{100}$$

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$$\text{Reduction needed} = \frac{120x}{100} - x = \frac{20x}{100}$$

$$\% \text{ decreased} = \frac{\frac{20x}{100}}{\frac{120x}{100}} \times 100\% = \frac{20}{120} \times 100\%$$

$$= \frac{50}{3}\% = 16\frac{2}{3}\%$$

————— x ————— x —————