

10. (i) A number 3.625 is wrongly read as ~~3.265~~; find the percentage error.

Ans-

Correct number = 3.625

No. wrongly read as = 3.265

$$\begin{aligned}\text{Error} &= 3.625 - 3.265 \\ &= 0.360\end{aligned}$$

$$\% \text{ Error} = \frac{0.360}{3.625} \times 100$$

$$= \frac{360}{3625} \times 100$$

$$= \frac{36000}{3625}$$

$$= 9.93\%$$

(ii) ~~Correct number = 5.78×10^3~~

(ii) A number 5.78×10^3 is wrongly written as 5.87×10^3 , find the percentage error.

Ans-

Correct number = 5.78×10^3

No. wrongly written as = 5.87×10^3

$$\begin{aligned}\text{Error} &= 5.87 \times 10^3 - 5.78 \times 10^3 \\ &= 0.09 \times 10^3\end{aligned}$$

$$\% \text{ Error} = \frac{0.09 \times 10^3}{5.78 \times 10^3} \times 100$$

$$= \frac{0.09}{5.78} \times 100 = \frac{9}{578} \times 100$$

$$= \frac{900}{578} \%$$

$$= 1.56\%$$

11. In an election between two candidates, one candidate secured 58% of the votes polled and won the election by 18,336 votes. Find the total number of votes polled and secured by the winning each candidate.

Ans. Since, winning candidate secured 58% of the votes polled.

$$\text{Losing candidate secured} = (100 - 58)\%$$

$$= 42\% \text{ of the votes polled}$$

$$\text{Difference of votes} = 58 - 42$$

$$= 16\% \text{ of the votes polled}$$

We are given:

16% of votes polled = 18,336

$$\Rightarrow \frac{16}{100} \text{ of votes polled} = 18,336$$

$$\Rightarrow \text{votes polled} = 18,336 \times \frac{100}{16}$$

$$\Rightarrow \text{votes polled} = \frac{18,336 \times 100}{16}$$

$$\Rightarrow \text{votes polled} = 1,14,600$$

Votes secured by winning candidate

$$= \frac{58}{100} \times 1,14,600$$

$$= 66,468$$

Votes secured by losing candidate

$$= \frac{42}{100} \times 1,14,600$$

$$= 48,132$$

votes polled = 1,14,600

Votes secured by winning candidate = 66,468

" " " losing candidate = 48,132

12. In an election between two candidates, one candidate secured 47% of votes polled and lost the election by 12,366 votes. Find the total votes polled and the votes secured by the winning candidate.

Ans. Since, the losing candidate secured 47% of the votes polled.

Winning candidate secures votes

$$= (100 - 47)\% \text{ of the votes polled}$$

$$= 53\% \text{ of the votes polled}$$

$$\text{Difference of votes} = 53 - 47$$

$$= 6\% \text{ of the votes polled}$$

We are given :

$$6\% \text{ of the votes polled} = 12,366$$

$$\Rightarrow \frac{6}{100} \text{ of the votes polled} = 12,366$$

$$\Rightarrow \text{votes polled} = 12,366 \times \frac{100}{6}$$

$$= 2,06,100$$

$$= \frac{1236600}{6}$$

$$= 2,06,100$$

Votes secured by winning candidate

$$= \frac{53}{100} \times 2,06,100 = 1,09,233$$

Votes polled = 2,06,100

Votes secured by winning candidate
= 1,09,233

13. The cost of a scooter depreciates every year by 15% of its value at the beginning of the year. If the present cost of the scooter is ₹8000, find its cost:

(i) after one year

(ii) after 2 years

Ans-

Present cost of scooter = ₹8000

The cost of scooter depreciates by 15% every year

(i) Cost of scooter after one year

$$= \frac{100 - 15}{100} \times 8000$$

$$= \frac{85}{100} \times 8000 = ₹6800$$

(ii) cost of scooter after 2 years

$$= \frac{100-15}{100} \times 6800$$

$$= \frac{85}{100} \times 6800$$

$$= ₹ 5780$$

11. In an examination, the pass mark is 40%. If a candidate gets 65 marks and fails by 3 marks, find the maximum marks.

Ans. Marks obtained by the candidate = 65

Fails by = 3 marks

$$\text{Pass marks} = 65 + 3 = 68$$

$$\% \text{ of Pass marks} = 40\%$$

$$\text{Req. maximum marks} = \frac{100}{40} \times 68$$

$$= 10 \times 17$$

$$= 170$$