VIKRAMADITYA ACADEMY

SAINIK SCHOOL • MILITARY SCHOOL • RIMC COACHING

CHAPTER-WISE

PDF NOTES

MATHEMATICS BY NARESH SIR



$$\pi \quad a^2+b^2=c^2 \quad f(x)=ax^2+bx+c$$

$$x=\frac{-b\pm\sqrt{b^2-4ac}}{2a} \qquad \sin\theta=\frac{op}{hyp}$$

$$\sum_{i=1}^{n} i=\frac{n(n+1)}{2} \qquad A=\pi r^2$$



CHAPTER: 07 - PERCENTAGE

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PERCENTAGE

Chapter 7

Percentage — Key Formulas

$$x\% \text{ of } N = \frac{x}{100} \times N$$

$$\text{Percentage} = \frac{\text{Part}}{\text{Whole}} \times 100$$

$\Rightarrow$ Increase by r%: new value $= \left(1 + \frac{r}{100}\right) \times$ original

$\Rightarrow$ Decrease by r%: new value $= \left(1 - \frac{r}{100}\right) \times$ original

Exercise 12.2 (Percentage)

Q.5 **Asha got 86.875% marks in the annual examination. If she got 695 marks, find the total number of marks of the examination.**

Let the maximum marks be x.

$$\frac{86.875}{100} \times x = 695 \Rightarrow x = \frac{695 \times 100000}{86875}$$

Ans: Maximum marks = 800

Q.6 **Deepti went to school for 216 days in a full year. If her attendance is 90%, find the number of days on which the school was opened.**

Let the number of days be x.

$$\frac{90}{100} \times x = 216 \Rightarrow x = \frac{216 \times 100}{90}$$

Ans: The school was open for 240 days.

Q.7 **A garden has 2000 trees. 12% of these are mango trees, 18% lemon and the rest are orange trees. Find the number of orange trees.**

$$\text{Mango} = \frac{12}{100} \times 2000 = 240, \qquad \text{Lemon} = \frac{18}{100} \times 2000 = 360$$

$$\text{Orange} = 2000 - (240 + 360) = 1400$$

Ans: 1400 orange trees

Q.8 **A balanced diet should contain 12% of proteins, 25% of fats and 63% of carbohydrates. If a child needs 2600 calories in his food daily, find in calories the amount of each of these in his daily food intake.**

$$\text{Proteins} = \frac{12}{100} \times 2600 = 312, \quad \text{Fats} = \frac{25}{100} \times 2600 = 650, \quad \text{Carbohydrates} = \frac{63}{100} \times 2600 = 1638$$

Ans: Proteins 312, fats 650, carbohydrates 1638 calories

Q.9 **A cricketer scored a total of 62 runs in 96 balls. He hit 3 sixes, 8 fours, 2 twos and 8 singles. What percentage of the total runs came in (i) sixes (ii) fours (iii) twos (iv) singles?**

Shots	Runs	Percentage of 62
3 sixes	18	$\frac{18}{62} \times 100 = 29.03\%$
8 fours	32	$\frac{32}{62} \times 100 = 51.61\%$
2 twos	4	$\frac{4}{62} \times 100 = 6.45\%$
8 singles	8	$\frac{8}{62} \times 100 = 12.90\%$

Q.10 **A cricketer hit 120 runs in 150 balls during a test match. 20% of the runs came in 6's, 30% in 4's, 25% in 2's and the rest in 1's. How many runs did he score in (i) 6's (ii) 4's (iii) 2's (iv) singles?**

Shots	Working	Runs
6's	$\frac{20}{100} \times 120$	24
4's	$\frac{30}{100} \times 120$	36
2's	$\frac{25}{100} \times 120$	30
Singles	$120 - (24 + 36 + 30)$	30

Q.11 **Radha earns 22% of her investment. If she earns Rs. 187, then how much did she invest?**

Let the investment be x.