

7th Maths Percentage Test paper -1

Percentages are special types of fractions in which the denominator is always hundred.

To convert a ratio into a percent, we first write it as a fraction and multiply it by 100 and put a % sign.

To convert a percent into fraction, remove the % sign, divide by 100 and reduce the fraction to lowest terms.

To convert a decimal into a percent, we shift the decimal two places right and add a % sign.

To convert a percent into a decimal, remove the % sign and shift the decimal two places to left.

Percentage increase/decrease is given by $(\text{change} / \text{original value}) \times 100\%$ Test Paper

1. What percent of a day is half an hour?

Solution: Let $x\%$ of a day = half an hour $\Rightarrow \frac{x}{100} \times 24 \text{ hrs} = \frac{1}{2} \text{ hr} \Rightarrow x = \frac{100}{24 \times 2} = 2 \frac{1}{12}\%$

2. A lunch interval of half an hour is 5% of total office hours. Calculate the total working hours.

Solution: Let the total working hours = x hrs

5 % Of $x = \frac{1}{2} \text{ hrs} \Rightarrow \frac{5x}{100} = \frac{1}{2} \Rightarrow x = \frac{100}{2 \times 5} = 10 \text{ hrs}$

3. In a student's election, Rahul got 66% of the votes polled. If he got 363 votes, Find the total number of voters.

Solution: Let the total number of voters = x

66% of $x = 363 = \frac{66x}{100} = 363 \Rightarrow x = \frac{100 \times 363}{66} = 550$

4. Prices of bananas has changed from 5 for a rupee to 4 for a rupee. Find the percentage increase in price.

Solution: Original price of 1 banana = $1/5 = 20\text{p}$

New Price of 1 banana = $1/4 = 25\text{P}$

Change in price = 5p

% change in price of 1 banana = $\frac{5\text{p}}{20\text{p}} \times 100 = 25\%$

5. Sandys height increased by 20% last year and by 15% this year. What is the total percent increase in 2 years?

Solution: Let last year height = 100cm

Increased in height last year = $100 + 20\% \text{ of } 100 = 120$

Increased in height present year = $120 + 15\% \text{ of } 120 = 120 + 18 = 138\text{cm}$

Increase in two year = $138 - 100 = 38\%$

6. Price of a commodity decreased by 10% last year and increased by 20% this year. Find the % change in price in two years.

Solution: : Let last year Price = 100cm

Decreased in Price = $100 - 10\% \text{ of } 100 = 90$

Increased in height = $90 + 20\% \text{ of } 90 = 90 + 18 = 108$

Increase in two year = $108 - 100 = 8\%$

7. In a class, section A has 42 boys out of total 75 students, section B has 60% girls in a total student strength of 80 and section C has two third boys among 45 students. Find the aggregate percentage of boys.

Solution: Boys in section A = 42 ;

Boys in section B = $40\% \text{ of } 80 = 32$;

Boys in section C = $\frac{2}{3} \text{ of } 45 = 30$

Total students = $75 + 80 + 45 = 200$

Total Boys = $42 + 32 + 30 = 104$

So, percentage of boys = $\frac{104}{200} \times 100 = 52\%$