

COMPARING QUANTITIES

Class 8 (MATHEMATICS)

Chapter 8

(ACCORDING TO NCERT BOOK)

RATIO

- RATIO :Ratio means comparing two or more than two quantities.

For example :

- A basket has two types of fruits, we can say 35 bananas and 7 apples
- Then ,the ratio of the
number of apples to the number of bananas = 7:35
- In terms of ratio, it is 1:5, read as “1 is to 5”
- Symbol of ratio is :
- Comparison can be done by using fraction as $7/35 = 1/5$

PERCENTAGE:

- Percent: The word percent is an abbreviation of the Latin word “*per centum*” which means per hundred or hundredths.
- Percent as a fraction: $35\% = \frac{35}{100}$
- So, a fraction with its denominator 100 is equal to that percent as is the numerator.
- Fraction into percent: $\frac{4}{5}$ multiply the fraction with 100

$$\frac{4}{5} \times 100 = 80\%$$

PERCENTAGE INCREASE OR DECREASE:

- To increase a quantity by percentage. Find the percentage of the quantity and add it to the original quantity.
- To decrease a quantity by a percentage. Find percentage of the quantity and subtract it from the original quantity.

$$\% \text{ increase or decrease} = \frac{\textit{amount of change}}{\textit{original amount}} \times 100$$

PROFIT AND LOSS

- The buying price of any item is known as its cost price. In short as C.P
- The price at which you sell is known as the selling price. In short as S.P
- If C.P is less than S.P ,then profit. $\text{PROFIT} = \text{SP} - \text{CP}$
- If CP is greater than CP then loss. $\text{LOSS} = \text{CP} - \text{SP}$
- For example, a toy bought for Rs. 72 is sold at Rs. 80 in this case $\text{SP} > \text{CP}$, so profit in this case
- For example, a cycle bought for Rs. 940 is sold for Rs. 800 in this case $\text{CP} > \text{SP}$, so loss in this case

DISCOUNT

Marked price: The price on the label of an article /product is called the marked price or list price .

Discount: Discount is the reduction given on the Marked price (MP) of the article.

So Discount =marked price –sale price

$$\text{Discount}\% = \frac{\text{discount}}{\text{marked price}} \times 100$$

SP= Marked price - Discount

SALE TAX/VALUE ADDED TAX

- Sale tax is charged by the govt. on the sale of an item.
- It is collected by the shopkeeper from the customer and given to the govt.
- This is always on the SP of an item and added to the value of the bill.
- The price included the tax is known as value added tax (VAT)

SIMPLE INTEREST

- PRINCIPAL: The money we borrow from bank or from any source as sum borrowed or PRINCIPAL.
- SIMPLE INTEREST: It is the extra money that a bank give you for saving or depositing your money with them.
- SIMPLE INTEREST (SI) =
$$\frac{\textit{principal} \times \textit{rate} \times \textit{time}}{100}$$
- Amount = Principal + Interest

COMPOUND INTEREST

- Compound interest is calculated on principal plus the interest for the previous period. The principal amount increase with every time period

Compound interest is more than simple interest on the same amount of money.

- $A = P \left(1 + \frac{R}{100} \right)^T$

- Compound interest (CI)=amount-principal

Principal as P ,rate as R, time as T, amount as A

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