

## Chapter 4 - Unitary method

Class : 4th Standard NCERT

School: Ideal Jawa Rotary School

Date Created : January 04, 2026

### I. Introduction

A. Unitary Method – finding value of one to find value of many (or vice versa)

### II. Two Basic Rules

A. To find value of many when value of one is known → Multiply

B. To find value of one when value of many is known → Divide

### III. Steps to Solve Problems

A. Step 1: Find cost/value of 1 item (by division)

B. Step 2: Multiply by required number to get total value

### IV. Applications

A. Cost of items (e.g., pens, notebooks)

B. Distance and time (e.g., km per hour)

C. Weight (e.g., soap cakes)

D. Capacity (e.g., bottles of ghee)

### V. Combined Problems

A. First divide (to get unit value), then multiply (to get new total)

---

## Chapter Notes

What is Unitary Method?

The method in which we first find the value of one unit and then use it to find the value of required number of units.

Rule 1:

If the value of one item is known, the value of many items = Value of one × Number of items

Example: Cost of 1 notebook = Rs. 15

Cost of 7 notebooks =  $15 \times 7 = \text{Rs. } 105$

Rule 2:

If the value of many items is known, the value of one item = Total value ÷ Number of items

Example: Cost of 6 pens = Rs. 90

Cost of 1 pen =  $90 \div 6 = \text{Rs. } 15$

Combined Use (Most Common):

Step 1: Find cost of 1 unit (by division)

Step 2: Multiply by new quantity

Example: Cost of 5 apples = Rs. 125

Cost of 1 apple =  $125 \div 5 = \text{Rs. } 25$

Cost of 9 apples =  $25 \times 9 = \text{Rs. } 225$

Real-life Uses:

- Shopping (price of items)
- Travel (distance per hour)
- Cooking (quantity of ingredients)
- Fuel consumption (cost per litre)

Unit Test (20 Marks)

Time: 30 minutes

A. Short Answer Questions (2 marks each  $\times 5 = 10$ )

1. The cost of 8 pencils is Rs. 40. Find the cost of 1 pencil.
2. If 1 chocolate costs Rs. 12, what is the cost of 5 chocolates?
3. A car travels 240 km in 4 hours. How far does it go in 1 hour?
4. Weight of 3 books is 1800 g. Find the weight of 1 book.
5. A bottle contains 500 mL milk. How much milk is in 6 bottles?

B. Word Problems (5 marks each  $\times 2 = 10$ )

6. The cost of 7 pens is Rs. 105. Find the cost of 12 pens.

7. A train covers 630 km in 7 hours. How far will it travel in 4 hours at the same speed?

---

Unit Test – Solutions

A.

1. Cost of 1 pencil =  $40 \div 8 = \text{Rs. } 5$
2. Cost of 5 chocolates =  $12 \times 5 = \text{Rs. } 60$
3. Distance in 1 hour =  $240 \div 4 = 60 \text{ km}$
4. Weight of 1 book =  $1800 \div 3 = 600 \text{ g}$
5. Milk in 6 bottles =  $500 \times 6 = 3000 \text{ mL (or } 3 \text{ L)}$

B.

6. Cost of 1 pen =  $105 \div 7 = \text{Rs. } 15$

Cost of 12 pens =  $15 \times 12 = \text{Rs. } 180$

7. Distance in 1 hour =  $630 \div 7 = 90 \text{ km}$

Distance in 4 hours =  $90 \times 4 = 360 \text{ km}$

---

## Worksheet with Solutions

### Worksheet

1. The cost of 9 erasers is Rs. 27. Find the cost of 15 erasers.
  2. If 5 kg of rice costs Rs. 200, what is the cost of 8 kg?
  3. A machine makes 480 toys in 6 days. How many toys will it make in 10 days?
  4. The fare for 3 bus tickets is Rs. 225. What is the fare for 8 tickets?
  5. Weight of 4 soap cakes is 900 g. Find the weight of 7 soap cakes.
- 

### Worksheet – Solutions

1. Cost of 1 eraser =  $27 \div 9 = \text{Rs. } 3$   
Cost of 15 erasers =  $3 \times 15 = \text{Rs. } 45$
2. Cost of 1 kg rice =  $200 \div 5 = \text{Rs. } 40$   
Cost of 8 kg =  $40 \times 8 = \text{Rs. } 320$
3. Toys in 1 day =  $480 \div 6 = 80$   
Toys in 10 days =  $80 \times 10 = 800$
4. Fare for 1 ticket =  $225 \div 3 = \text{Rs. } 75$   
Fare for 8 tickets =  $75 \times 8 = \text{Rs. } 600$
5. Weight of 1 soap cake =  $900 \div 4 = 225 \text{ g}$   
Weight of 7 cakes =  $225 \times 7 = 1575 \text{ g}$