**Chapter 9: Money**

**To Do**

* Summarise the unitary method
* Describe cost price (CP), selling price (SP), profit and loss
* Evaluate cost price (CP), selling price (SP), profit and loss
* Apply profit and loss in real-life situations

**Tune Up**

**Situation:**  
Rachna is the monitor of her class. Her class teacher asked her to buy a few stationery items for an art-and-craft activity and gave her a ₹ 500 note.

**Bill:**

| **Description** | **Amount (in ₹)** |
| --- | --- |
| 3 chart papers @ ₹ 8 per chart paper | 24 |
| 5 packets of crayons @ ₹ 25 per packet | 125 |
| 30 coloured sheets @ ₹ 3 per sheet | 90 |
| 4 glue sticks @ ₹ 10 per glue stick | 40 |
| **Total** | **?** |

**Tasks:**

1. Find the total amount of money spent by Rachna.
2. Find out how much money the shopkeeper returned to her.

**Explanation:**  
We purchase various articles like food items, clothes, grocery, and stationery. The amount to be paid is calculated by simple mathematical operations: **addition, subtraction, multiplication, division**.

**Unitary Method**

**Definition:**  
Finding the value of one article using given information, then finding the value of the desired quantity — this is the **unitary method**.

* If the total cost of any number of articles is given:  
  **Cost of 1 article = Total cost ÷ Number of articles**

**Example 1:**  
If a packet of 10 colour pencils costs ₹ 35, what does one pencil cost?  
Solution: ₹ 35 ÷ 10 = ₹ 3.5

* If the cost of 1 article is given, then:  
  **Cost of multiple articles = Cost of 1 article × Number of articles**

**Example 2:**  
1 metre of cloth costs ₹ 30.  
7 metres cost? ₹ 30 × 7 = ₹ 210

**Exercise 11.1**

1. Cost of 8 notebooks = ₹ 96. Find cost of 12 notebooks.
2. A car covers 50 km in 1 hour. Find distance in 45 min.
3. Cost of 5 kg mangoes = ₹ 200. How many kg for ₹ 300?
4. If 6 chairs cost ₹ 3390, find cost of 10 chairs.
5. Parcel weighs 35 kg. How many parcels weigh 2100 kg?
6. Rashmi earns ₹ 80,050 in 2 months. How much in 7 months?
7. Worker paid ₹ 4507.50 for 15 days. How much for 25 days?
8. Bus ticket ₹ 341 for 62 km. Cost for 540 km?
9. Veena sees Diwali offers:
   * (a) 25 candles for ₹ 40 or 30 candles for ₹ 45
   * (b) 15 garlands for ₹ 150 or 5 garlands for ₹ 60  
     Which is the better offer?

**Profit and Loss**

* **Cost Price (C.P.):** Price at which article is bought.
* **Selling Price (S.P.):** Price at which article is sold.
* **Overhead Charges:** Transportation, taxes, labour, etc.

**Formulas:**

* Total C.P. = Cost price + Overhead charges
* **Profit = S.P. – C.P.**
* **Loss = C.P. – S.P.**

**Important Formulas:**

* If Profit and C.P. are given: S.P. = C.P. + Profit
* If Profit and S.P. are given: C.P. = S.P. – Profit
* If Loss and C.P. are given: S.P. = C.P. – Loss
* If Loss and S.P. are given: C.P. = S.P. + Loss

**Example 3:**  
a) C.P. = ₹ 3000, S.P. = ₹ 3200  
Profit = ₹ 200  
b) C.P. = ₹ 280, S.P. = ₹ 310, Overheads = ₹ 18  
Profit = S.P. – (C.P. + Overheads) = ₹ 12

**Example 4:**  
C.P. = ₹ 8790, Profit = ₹ 1050  
S.P. = ₹ 9840

**Example 5:**  
S.P. = ₹ 5645, Profit = ₹ 410  
C.P. = ₹ 5235

**Loss**

If S.P. < C.P. → Loss

**Formulas:**

* Loss = C.P. – S.P.
* C.P. = S.P. + Loss
* S.P. = C.P. – Loss

**Example 6:**  
a) C.P. = ₹ 3000 + ₹ 300 (overheads) = ₹ 3300, S.P. = ₹ 3200 → Loss = ₹ 100  
b) C.P. = ₹ 310, S.P. = ₹ 280 → Loss = ₹ 30

**Example 7:**  
C.P. = ₹ 1567, Loss = ₹ 134  
S.P. = ₹ 1433

**Example 8:**  
S.P. = ₹ 10,400, Loss = ₹ 280  
C.P. = ₹ 10,680

**Exercise 11.2**

1. Find profit/loss in each case (5 cases given).
2. Find S.P. in each case (5 cases).
3. Find C.P. in each case (5 cases).

**Applications in Real Life**

**Example 9:**  
Ridhima bought shoes for ₹ 360, sold at ₹ 400 → Profit = ₹ 40

**Example 10:**  
Shopkeeper bought oven for ₹ 5000, paid ₹ 200 tax + ₹ 300 transport → Total C.P. = ₹ 5500. Sold for ₹ 6500 → Profit = ₹ 1000

**Example 11:**  
Garment store bought 50 shirts @ ₹ 400 each = ₹ 20,000. Sold at a loss of ₹ 1600.  
S.P. of all shirts = ₹ 18,400 → S.P. of 1 shirt = ₹ 368

**Exercise 11.3**

1. Shopkeeper bought second-hand car for ₹ 1,50,000, spent ₹ 10,000 → Sold for ₹ 2,00,000. Find profit/loss.
2. Vinita bought house for ₹ 4,50,000, spent ₹ 20,000 on repairs, sold for ₹ 4,30,000. Find profit/loss.
3. Srivatsan bought almirah for ₹ 12,480, sold at loss of ₹ 1,660. Find selling price.
4. Fazal bought sofa, spent ₹ 840 repairs, sold for ₹ 8,000 at loss of ₹ 1,250. Find C.P.
5. Raman purchased bike for ₹ 85,530, spent ₹ 1,200 on accessories, sold for ₹ 50,000. Find profit/loss.

**Wrap Up**

In unitary method, cost of 1 article = total cost ÷ number of articles.  
Cost of any number of same-price articles = cost of 1 article × number of articles.

**Workout**

1. Taxi charges ₹ 420 for 35 km. How much for 23 km?
2. Article bought for ₹ 80, sold for ₹ 90. Find profit/loss.
3. Trader bought almirah for ₹ 15,000, gained ₹ 923. Find S.P.
4. Sold scooter for ₹ 34,000 at loss of ₹ 7,302. Find C.P.
5. Rohit bought stereo for ₹ 5,863, spent ₹ 137 repairs, sold for ₹ 5,700. Find loss.
6. Which is better — dozen eggs for ₹ 78 or 5 eggs for ₹ 35?

**Mental Maths**

1. Article costing ₹ 75 sold for ₹ 135 → Profit = ?
2. If S.P. = ₹ 5500, profit = ₹ 1500 → C.P. = ?
3. If C.P. = ₹ 500, loss = ₹ 60 → S.P. = ?
4. 7 sacks of rice = ₹ 777. Cost of 1 sack?
5. Factory produces 4500 toy cars in 15 days. 1 day = ?

**Maths in Action & Lab Activity**

**Aim:** Understand profit & loss.  
**Materials:** Dummy notes/coins, items like pencil, pen, eraser, sharpener.  
**Method:**

1. Teacher writes cost of each item.
2. Calls students to play shopkeeper.
3. Provides dummy money.
4. Students buy items, calculate profit/loss.