Chapter 1
Money

UNITARY METHOD

A boy wants to buy a packet of pencils.

There is a box of 6 blue pencils available for ₹16.50. Also, there is a box of 12 red pencils which cost ₹ 36. If both boxes are of the same quality, which box is a better buy?

In other words, which of the two boxes of pencils has cheaper pencils?

To find out, the boy needs to find the price of one pencil in the cox of 6, and the price of one pencil in the box of 12.

To find the 'price of one', is called finding the 'unit price' for which we use the 'Unitary Method'.

- First find the price of one blue pencil.
  6 blue pencils cost ₹ 16.50.
  1 blue pencils costs = ?
- Divide to find out.
  $16.50 \div 6 = 2.75$
  One blue pencil costs ₹ 2.75.
- Now find the price of one red pencil.
  12 red pencils cost ₹ 36.
  1 red pencils costs = ?
  One red pencil costs ₹ 3.

Answer : The boy will buy the box of blue pencils because its unit price shows that it is a better buy.

Reena buys 3 chocolates for ₹ 54. How much will Reena have to pay for 10 such chocolates ?

- Find the price of one chocolate.
  3 chocolates cost ₹ 54.
  1 chocolate cost ₹ $54 \div 3 =$ ₹ 18
- Find the price of 10 chocolates.
  1 chocolate costs ₹ 18.
  10 chocolate cost ₹ $18 \times 10 = 180$

Answer : Reena will have to pay ₹ 180 for 10 chocolates.

Testing Time 1.1

Solve the following :

(a) A mini bike can travel 480 km using 60 litres of petrol. How far can it go using 72 litres of petrol?

(b) 22 buses can take 572 people. How many people can 1 bus hold?

(c) A carton of two dozen apples cost ₹180. What will be the cost of 1 apple?

(d) 3 kg of peanuts costs ₹ 74.40. How much will 1 kg cost ?

(e) 5 kg of grapes costs ₹ 160. How much will 19 kg cost?

PROFIT AND LOSS

Mr. Tiwari makes clocks in his factory and then sells them in his shop. It costs him ₹95 to make a clock. He sells each clock for ₹108.

He earns ₹ 108 – ₹ 95 = ₹ 13 on each clock that he makes and sells.

₹ 95 is called the cost price (C.P.) of the clock.

₹108 is the selling price of the clock.

₹13 is Mr. Gupta's profit.

This shows that;

Selling price – Cost price = Profit ← Formula to calculate profit

S.P. – C.P. = Profit

This happens only when the selling price is more than the cost price.

What if Mr. Gupta had to sell a clock for less than his cost price ? What if he sold a clock for ₹90?

Then the cost price would be more than the selling price and he would have to bear a loss.

₹ 95 – ₹ 90 = ₹ 5

This shows that;

Cost price – Selling price = Loss ← Formula to calculate loss

C.P. – S.P. = Loss

Remember: When C.P. < S.P., there is a profit. When C.P. > S.P., there is a loss

(a) A shopkeeper buys jean pants worth ₹175 each and sells them for ₹210 each. What is his profit or loss on each jean pants?

Cost Price = ₹ 175

Selling Price = ₹ 210

C.P. < S.P. There is profit.

C.P. – S.P. = profit

₹210 – ₹175 = ₹35

Answer: The shopkeeper makes a profit of ₹ 35 on each jean pant.

(b) A women buys a small television set for ₹ 4,500. But , after some time, she sells it for ₹ 3,750. Find the gain or loss?

Cost Price = ₹4,500

Selling Price = ₹3,750

C.P. > S.P. (There is loss.)

C.P. – S.P. = Loss

₹4, 500 – ₹3, 7500 = ₹750

Answer : The woman incurs a loss of ₹750 on the television set.

To Find the Cost Price or Selling Price

The formulae to find profit and loss we have three terms namely selling price, cost price and profit or loss.

If only two terms are known, the third can be found by us.

To Find Cost Price (C.P.) :

To find C.P. when there is profit, use C.P. = S.P. – P

To find C.P. when there is loss, use C.P. = S.P. + L

(a) Raman sold a watch for ₹ 325 incurring a loss of ₹ 33. What was the cost of the watch?

Selling Price = ₹325

Loss = ₹33

Cost Price = ?

C.P. = S.P. + L

= ₹(325+33)

= ₹358

Answer : The cost price of the watch was ₹ 358.

(b) A painter made a profit of ₹ 381 on a painting he sold for ₹ 5,389. What had the painting cost him ?

Selling Price = ₹5,389

Profit = ₹381

Cost Price = ?

C.P. = S.P. – P

= ₹(5389 – 381)

= ₹5008

Answer : The painting cost the painter ₹5,008.

To Find Selling Price (S.P.) :

To find S.P. when there is profit, use S.P. = C.P. + P

To find S.P. when there is loss, use S.P. = C.P. – L

(a) A coin collector bought a rare coin for 31850 and sold it at a profit of ₹2,500. What was the selling price of the coin?

Cost Price = ₹31,380

Profit = ₹2, 500

S.P. = ?

S.P. = C.P. + P

= ₹(31380 + 2500)

= ₹33880

Answer : The collector sold the coin for ₹33, 880.

(b) Mayank bought a computer set for ₹9,350 and sold it after a few years for ₹650 less than what he paid for it. How much did he sell the computer for?

Cost Price = ₹9,350

Loss = ₹650

S.P. = ?

S.P. = C.P. – L

= ₹(9350– 650)

= ₹8700

Answer : Mayank sold the computer for ₹8700.

Testing Time 1.2

1. Find out the profit or loss in each of these:

	C.P.	S.P.	Profit/Loss	Amount
(a)	₹3,090	₹3,100	C.P. < S.P. = Profit	₹3100 – ₹3090 = ₹10
(b)	₹7,395	₹7,935	_____	_____
(c)	₹15,060	₹14,600	_____	_____
(d)	₹8,319	₹8,139	_____	_____
(e)	₹5,250	₹5,175	_____	_____

(f) ₹13,190 ₹13,865 _____ _____

(g) ₹16,000 ₹15,905 _____ _____

2. Fill in the blanks:

	S.P.	Profit	Loss	S.P.
(a)	₹3,385	₹295	_____	_____
(b)	₹1,700	_____	₹528	_____
(c)	₹7,630	_____	1,120	_____
(d)	₹12,391	_____	₹5,060	_____
(e)	₹75,365	₹3,315	_____	_____

3. Fill in the blanks:

	S.P.	Profit	Loss	C.P.
(a)	₹2,095	_____	₹189	_____
(b)	₹4,586	₹469	_____	_____
(c)	₹8,890	_____	₹451	_____
(d)	₹16,381	₹1,495	_____	_____
(e)	₹5, 365	₹585	_____	_____

4. Solve the following :

(a) A watch that costs ₹617 to make it sold at ₹675. What is the profit that is made?

(b) A dozen books are sold at ₹648 at a profit of ₹120. What is the cost price of the books?

(c) A dealer in old items buys an old sofa set for ₹6,380. He spends ₹1,940 on its repairs. He sells it for ₹ 9,000. What is the profit or loss?

(d) A used scooter is sold for ₹9,390. It had been bought for ₹12,500. What is the loss that is incurred?

(e) A vegetable seller bought 100 kg of onions at ₹ 4.80 a kilo. He sold 75 kg at ₹ 5.25 a kilo and 25 kg at ₹ 4.20 a kilo. What is his profit or loss?