

Unitary method (Handout 3)

The method in which we first find the value of one unit and then the value of the required number of units is known as the unitary method.

Suppose the cost of 6 cans is ₹ 210. To find the cost of 4 cans, using the unitary method, we first find the cost of 1 can.

It is ₹ 35. Now find the cost of 4 cans by multiplying 35 to it.

Eg: Cost of 105 envelopes is ₹ 350. How many envelopes can be purchased for ₹ 100?

Solution : In ₹ 350, the number of envelopes that can be purchased = 105

Therefore, in ₹ 100, number of envelopes that can be purchased = $105 / 350$.

Therefore, in ₹ 100, the number of envelopes that can be purchased = $(105 / 350) \times 100 = 30$.

Thus, 30 envelopes can be purchased for ₹ 100.

Eg : A car travels 90 km in $2\frac{1}{2}$ hours.

(a) How much time is required to cover 30 km with the same speed?

(b) Find the distance covered in 2 hours with the same speed.

Solution :

(a) In this case, time is unknown and distance is known.

Therefore, we proceed as follows : $2\frac{1}{2}$ hours = $\frac{5}{2}$ hours =

$(\frac{5}{2}) \times 60$ minutes = 150 minutes.

90 km is covered in 150 minutes.

Therefore, 1 km can be covered in $\frac{150}{90}$ minutes Therefore, 30 km can be covered in $(\frac{150}{90}) \times 30$ minutes i.e. 50 minutes

Thus, 30 km can be covered in 50 minutes.

(b) In this case, distance is unknown and time is known.

Therefore, we proceed as follows :

Distance covered in $2\frac{1}{2}$ hours (i.e. $\frac{5}{2}$ hours) = 90 km Therefore, distance covered in 1 hour = $90 \div \frac{5}{2}$ km

= $90 \times \frac{2}{5}$ = 36 km Therefore, distance covered

in 2 hours = 36×2 = 72 km.

Thus, in 2 hours, distance covered is 72 km.
