Cosmo School

Class – 5

Chapter – 9

Percentage

Lecture sheet – 9

Creative Question

Profit & Loss

Solution

1. a) Given,

Cost price = 1600 tk

Loss % = 20 %

We know,

$$\text{Selling Price} = \left[\frac{(100-loss\%)}{100} \times Cost\ price\right]$$

$$= \left[\frac{(100-20)}{100} \times 1600\right] \text{ tk}$$

$$= \left(\frac{80\times1600}{100}\right) \text{ tk}$$

$$= 1280 \text{ tk}$$

Ans: 1280 tk

b) Given,

Cost price = 1600 tk

Profit % = 20 %

We know,

$$\text{Selling Price} = \left[\frac{(100+Profit\%)}{100} \times Cost\ price\right]$$

$$= \left[\frac{(100+20)}{100} \times 1600\right] \text{ tk}$$

$$= \left(\frac{120\times1600}{100}\right) \text{ tk}$$

$$= 1920 \text{ tk.}$$

Ans: 1920 tk.

2. a) Given,

Selling Price = 1280 tk

Loss % = 20%

We know,

$$\text{Cost price} = \left[\frac{100}{(100-Loss\%)} \times selling\ price\right]$$

$$= \left[\frac{100}{(100-20)} \times 1280\right] \text{ tk}$$

$$= \left(\frac{100\times1280}{100}\right) \text{ tk}$$

$$= 1600 \text{ tk}$$

Ans: 1600 tk

b) Given,

Selling price = 1520 tk

From 'a' we get, cost price = 1600 tk

Loss = Cost price – Selling price

= (1600 – 1520) tk

= 80 tk

We know,

$$\text{Loss \%} = \frac{Loss}{Cost\ price} \times 100\%$$

$$= \frac{80}{1600} \times 100\%$$

$$= 5\ \%$$

Ans: 5 %

3. a) Given,

Cost price = 20 Taka

Selling price = 25 Taka

∴ Profit = (25 - 20) Taka

= 5 Taka

We know,

$$\text{Profit\%} = \frac{Profit}{Cost\ price} \times 100\%$$

$$= \frac{5}{20} \times 100\%$$

=25%

Ans: 25%

b) Given,

Cost price = 20 Taka

Profit % = 10%

We know,

Selling Price = $[\frac{(100+Profit\%)}{100} \times Cost\ price]$

= $[\frac{(100+10)}{100} \times 20]$ Taka

= $(\frac{110 \times 20}{100})$ Taka

= 22 Taka

Ans: 22 Taka.

4. a) Given,

Cost price = 1200 Taka

Profit% = 10%

We know,

Selling Price = $[\frac{(100+Profit\%)}{100} \times Cost\ price]$

= $[\frac{(100+10)}{100} \times 1200]$ Taka

= $(\frac{110 \times 1200}{100})$ Taka

= 1320 Taka

Ans: 1320 Taka.

b) Given,

Cost price = 1200 Taka

Profit % = 15%

We know,

Selling Price = $[\frac{(100+Profit\%)}{100} \times Cost\ price]$

= $[\frac{(100+15)}{100} \times 1200]$ Taka

= $(\frac{115 \times 1200}{100})$ Taka

= 1380 Taka

∴ Selling price will be more = (1380 - 1320) Taka

= 60 Taka

Ans: 60 Taka.

5.a) Here, 20% = $\frac{20}{100} = \frac{1}{5}$

Ans: $\frac{1}{5}$

b) Given,

Cost price = 1800 Taka

Loss% = 20%

We know,

Selling Price = $[\frac{(100-Loss\%)}{100} \times Cost\ price]$

= $[\frac{(100-20)}{100} \times 1800]$ Taka

= $(\frac{80 \times 1800}{100})$ Taka

= 1440 Taka

Ans: 1440 Taka.

c) Given,

Cost price = 1800 Taka

Profit% = 10%

We know,

Selling Price = $[\frac{(100+Profit\%)}{100} \times Cost\ price]$

= $[\frac{(100+10)}{100} \times 1800]$ Taka

= $(\frac{110 \times 1800}{100})$ Taka

=1980 Taka

Ans: 1980 Taka.

6.a) Given,

Total students = 60 persons

Girl students = 35%

∴ Number of girl students = 35% of 60

= $\frac{35}{100} \times 60$

=21

Ans: 21 students.

b) Given,

Total students = 80 persons

Girl students = 35%

∴Number of girl students = 35% of 80

= $\frac{35}{100} \times 80$

=28

∴Number of boy students = (80 - 28) persons
=52 persons

Ans: 52 boy students.

c) Total number of students = 60

∴ 15% 0f 60 = $\frac{15}{100} \times 60$

=9

Ans: 9 students failed in Mathematics.

d) Total students = 60 persons
Absent students = 55%

∴Number of absent students = 55% of 60

$= \frac{55}{100} \times 60$

= 33

∴ Number of present students = (60 - 33) persons
= 27 persons

Ans: 27 persons.

7. a) Let, cost price = 100 taka
For 12% discount, Selling price will be = (100 - 12) Taka
= 88 Taka

Ans: 88 Taka.

b) Given,

Selling price = 7040 Taka

Loss% = 12%

We know,

$$\text{Cost price} = \left[\frac{100}{(100-Loss\%)} \times selling\ price\right]$$

$$= \left[\frac{100}{(100-12)} \times 7040\right] \text{ Taka}$$

$$= \left(\frac{100 \times 7040}{88}\right) \text{ taka}$$

$$= 8000 \text{ Taka}$$

Ans: 8000 Taka.

c) From 'b' we get, cost price of a table = 8000 taka

According to the question,

Cost price of a table = Cost price of 5 chairs = 8000 Taka

Now,

Cost price of 5 chairs = 8000 Taka

" " " 1 " = (8000 ÷ 5) Taka

= 1600 Taka

Given,

Selling price of 1 chair = 2215 Taka

∴ Profit per chair = (2215 - 1600) Taka

=615 Taka

Ans: 615 Taka.