Selling price

discount = 7.5%

(P) SP = MP - Discount = 7x × (1 - 0.075) = 7x × 0.925

= 6.475x

discount = 20%.

SP = MP × (1 - 0.20) = 7x × 0.80 = 5.6x

Discount 7.5% Profit = SP - CP = 6.475x - 5x = 1.475x

Discount 20%. Profit = SP - CP = 5.6x - 5x = 0.6x

1.475x - 0.6x = 1750

0.875x = 1750

$x = \frac{1750}{0.875} = 2000$

CP (and) MP

using x = 2000

CP = 5x = 5 × 2000 = 10000

MP = 7x = 7 × 2000 = 14000

~~price after price~~

price after Discount

(1) First discount 12%.

$SP_1 = MP \times (1 - 0.12) = 14000 \times 0.88 = 12320$

(2) second Discount 15%.

$SP_2 = SP_1 \times (1 - 0.15) = 12320 \times 0.85 = 10472$

Profit = SP_2 - CP = 10472 - 10000 = 472

Profit = 472

(8) A. Selling price after 5% Discount

$SP = MP \times (1 - 0.05) = MP \times 0.95$

profit = 33%

$SP = CP + 0.33 \times CP = 1.33 \times CP$

SP equal

$MP \times 0.95 = 1.33 \times CP$

$MP = \frac{1.33 \times CP}{0.95}$

profit of MP = MP - CP

profit $MP = 1.33 \times CP = 420$

substituting MP

$\left(\frac{1.33 \times CP}{0.95} - CP \right) = 420$

cost price:

$\frac{1.33 \times CP - 0.95 \times CP}{0.95} = 420$

$\frac{(1.33 - 0.95) \times CP}{0.95} = 420$

$\frac{0.38 \times CP}{0.95} = 420$

$\frac{CP \times 1.33}{0.95} - 1.33CP = 420$

$1.33CP - 1.33CP \times 0.95 = 420 \times 0.95$

$1.33CP - 1.2635CP = 399$

$0.0665CP = 399$

$CP = \frac{399}{0.0665} = 6000$

Ans = 6000

(3) A

$SP_1 = CP \times (1 + 0.20) = CP \times 1.20$

$CP = CP \times (1 - 0.10) = CP \times 0.90$

$SP_2 = CP \times (1 + 0.40) = CP \times 1.40$

$SP_2 = (CP \times 0.90) \times 1.40 = CP \times 1.26$

$SP_2 = SP_1 + 90$

$CP \times 1.26 = CP \times 1.20 + 90$

$CP \times 1.26 - CP \times 1.20 = 90$

$CP \times (1.26 - 1.20) = 90$

$CP \times 0.06 = 90$

$CP = \frac{90}{0.06} = 1500$

Ans = 1500

4) A

total cost $= 20x + 4(x-2)$

$20x + 4(x-2) = 20x + 4x - 8 = 24x - 8$

$24x - 8 = 424$

$24x = 424 + 8$

$24x = 432$

$x = \frac{432}{24} = 18$

Ans $\therefore x = 18$

5)

A

price of one packet = 3₹

total cost = 12 × 3₹ = 36₹

total seeds from packets = 12 × 4 = 48 seeds

free seeds = $\left[\frac{12}{15}\right]$ = 2 free seeds

total seeds received = 48 + 2 = 50 seeds

effective price per seed = $\frac{\text{total cost}}{\text{total seeds received}} = \frac{36₹}{50} = 0.72₹$

Discount per seed = 1₹ − 0.72₹ = 0.28₹

percentage discount = $\left(\frac{0.28₹}{1₹}\right) \times 100 = 28\%$

Ans = 28%.