

Question 20:

(i) Area of the square = $\frac{1}{2}$ × (diagonal)² sq.unit = $\left(\frac{1}{2} \times 24 \times 24\right)$ m² = 288 m²

(ii) Side of the square = $\sqrt{288}$ m = 16.97 m Perimeter of the square = $(4 \times \text{side})$ units = (4×16.97) m = 67.88 m

Question 21:

Area of the square =
$$\frac{1}{2}$$
 x (diagonal)² sq. unit

Let diagonal of square be x

$$\frac{1}{2} \times (x^2) = 128 \Rightarrow x^2 = 256 \Rightarrow x = 16 \text{ cm}$$

Length of diagonal = 16 cm

Side of square =
$$\sqrt{128}$$
 cm = 11.31 cm

Perimeter of square = $[4 \times \text{side}]$ sq. units = $[4 \times 11.31]$ cm = 45.24 cm

Question 22: Let d meter be the length of diagonal

Area of square field =
$$\frac{1}{2}d^2 = 80000m^2$$
 (given)

$$\frac{1}{2}d^2 = 80000 \text{ or } d^2 = 160000$$

$$d = 400 \text{ m}$$

Time taken to cross the field along the diagonal

$$= \frac{d}{\text{speed}} = \frac{400}{4000} \text{ minute}$$
$$= \frac{400 \times 60}{4000} = 6 \text{ minute}$$

Hence, man will take 6 min to cross the field diagonally.

Question 23:

Rs. 180 is the cost of harvesting an area = 1 hectare = 10000 m^2

Re 1 is the cost of harvesting an area =
$$\frac{10000}{180}$$
 m²

Rs. 1620 is the cost of harvesting an area =
$$\frac{10000}{180} \times 1620$$

Area =
$$90000 \text{ m}^2$$

Area of square =
$$(side)^2 = 90000m^2$$

side =
$$\sqrt{90000}$$
 m = 300 m

Perimeter of square = $4 \times \text{side} = 4 \times 300 = 1200 \text{ m}$ Cost of fencing = Rs 6.75 per meter. Cost of fencing 1200 m long border = $1200 \times \text{Rs}$ 6.75 = Rs. 8100

******* END *******