



### Exercise 17B

Question 1:

Let the length of plot be  $x$  meters

Its perimeter =  $2$  [length + breadth]

$$= 2(x + 16) = (2x + 32) \text{ meters}$$

$$\therefore (2x + 32) = 75 \Rightarrow 2x = 75 - 32$$

$$\Rightarrow 2x = 43 \Rightarrow x = \frac{43}{2} = 21.5$$

Length of the rectangle is  $21.5$  meter

Area of the rectangular plot = length  $\times$  breadth =  $(16 \times 21.5)$

$$\text{m}^2 = 344 \text{ m}^2$$

The length =  $21.5$  m and the area =  $344 \text{ m}^2$

Question 2:

Let the breadth of a rectangular park be  $x$  meter

Then, its length =  $2x$  meter

$$\therefore \text{perimeter} = 2(\text{length} + \text{breadth})$$

$$= 2(2x + x) = 6x \text{ meters}$$

$$\therefore 6x = 840 \text{ m [ since } 1 \text{ km} = 1000 \text{ m]}$$

$$\Rightarrow x = 140 \text{ m}$$

Then, breadth =  $140$  m and length =  $280$  m

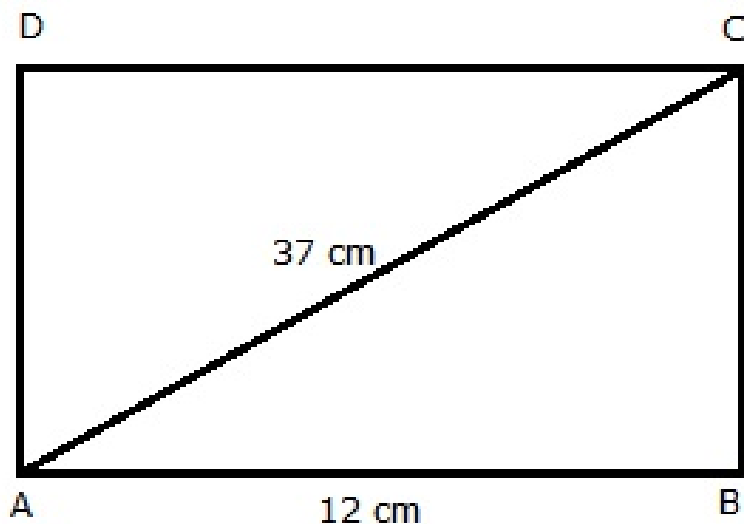
$$\text{Area of rectangular park} = (\text{length} \times \text{breadth}) = (140 \times 280) \text{ m}^2 =$$

$$39200 \text{ m}^2$$

Hence, area of the park =  $39200 \text{ m}^2$

Question 3:

Let ABCD be the rectangle in which  $AB = 12$  cm and  $AC = 37$  m



By Pythagoras theorem, we have

$$\begin{aligned}
 BC &= \sqrt{AC^2 - AB^2} \text{ units} \\
 &= \sqrt{(37)^2 - (12)^2} \text{ cm} \\
 &= \sqrt{(37 + 12)(37 - 12)} \text{ cm} \\
 &= \sqrt{49 \times 25} \text{ cm} \\
 &= \sqrt{1225} \text{ cm} = 35 \text{ cm}
 \end{aligned}$$

Thus, length = 35 cm and breadth = 12 cm

Area of rectangle =  $(12 \times 35) \text{ cm}^2 = 420 \text{ cm}^2$

Hence, the other side = 35 cm and the area =  $420 \text{ cm}^2$

\*\*\*\*\* END \*\*\*\*\*