

Perimeter

Exercise-39

Solution 1(1):

Length (l) = 9 cm

Breadth (b) = 6 cm

Perimeter of a rectangle

$$= 2(l + b)$$

$$= 2(9 + 6)$$

$$= 2(15)$$

$$= 30 \text{ cm}$$

Solution 1(2):

Length (l) = 5.2 cm

Breadth (b) = 4 cm

Perimeter of a rectangle

$$= 2(l + b)$$

$$= 2(5.2 + 4)$$

$$= 2(9.2)$$

$$= 18.4 \text{ cm}$$

Solution 1(3):

Length (l) = 7.5 cm

Breadth (b) = 3.2 cm

Perimeter of a rectangle

$$= 2(l + b)$$

$$= 2(7.5 + 3.2)$$

$$= 2(10.7)$$

$$= 21.4 \text{ cm}$$

Solution 2:

Side of the square (x) = 12 cm

Perimeter of a square = $4 \times x$

$$= 4 \times 12$$

$$= 48 \text{ cm}$$

Solution 3:

Sides of the triangle, a = 6 cm, b = 9 cm, c = 5 cm

Perimeter of a triangle = $a + b + c$

$$= 6 + 9 + 5$$

$$= 20 \text{ cm}$$

Solution 4:

Sides of the triangle, $a = 4.8$ cm, $b = 10.2$ cm, $c = 5.3$ cm

Perimeter of a triangle $= a + b + c$

$$= 4.8 + 10.2 + 5.3$$

$$= 20.3 \text{ cm}$$

Exercise-40**Solution 1:**

Length of the rectangle (l) $= 15$ m

Breadth of the rectangle (b) $= 10$ m

Length of trimming = Perimeter of the rectangle

Perimeter of the rectangle $= 2(l + b)$

$$= 2(15 + 10)$$

$$= 2(25)$$

$$= 50 \text{ m}$$

$\therefore$ Length of trimming required is 50 m.

Solution 2:

Side (x) of the square window $= 1.5$ m

The length of the wooden strip = Perimeter of the square

Perimeter of the square window $= 4x$

$$= 4 \times 1.5$$

$$= 6 \text{ m}$$

Length of the wooden strip required is 6 m.

Solution 3:

Length of the rectangular garden (l) $= 320$ m.

Breadth of the rectangular garden (b) $= 210$ m.

The distance Sabir walks = Perimeter of the rectangle.

Perimeter of the rectangular garden

$$= 2(l + b)$$

$$= 2(320 + 210)$$

$$= 2(530)$$

$$= 1060 \text{ m}$$

Satbir walks 1060 metres daily.

Solution 4:

Sides of the triangle, $a = 30$ m, $b = 20$ m and $c = 210$ m

Perimeter of the triangle

$$= (a + b + c)$$

$$= (30 + 20 + 25)$$

$$= 75 \text{ m}$$

Length of wire required for 4 rounds of the fence

$$= 4 \times \text{perimeter}$$

$= 4 \times 75$
 $= 300 \text{ m}$
Total cost of wire $= 2.5 \times 300$
 $= \text{Rs. } 750$
 $\therefore$ Total cost of the wire is Rs. 750

Solution 5:

Length of the mat (l) = 5 m 20 cm
Breadth of the mat (b) = 3 m 30 cm
Perimeter of the rectangle
 $= 2(l + b)$
 $= 2(5 \text{ m } 20 \text{ cm} + 3 \text{ m } 30 \text{ cm})$
 $= 2(8 \text{ m and } 50 \text{ cm})$
 $= 16 \text{ m } 100 \text{ cm}$
 $= 17 \text{ m}$
Length of the border required = Perimeter of the rectangle
 $\therefore$ Length of the border required = 17 m.

Exercise-41

Solution 1:

Suppose the length of the third side is c cm.
The sides of the triangle are 15 cm, 20 cm and c cm.
Perimeter of a triangle $= a + b + c$
But, perimeter = 50 cm
 $\therefore 50 = 15 + 20 + c$
 $\therefore 50 = 35 + c$
 $\therefore c = 50 - 35$
 $\therefore c = 15 \text{ cm}$
The length of the third side is 15 cm.

Solution 2:

Perimeter of a square $= 4 \times x$
But, perimeter = 80 cm
 $\therefore 4 \times x = 80$
But, $4 \times 20 = 80$
 $\therefore x = 20 \text{ cm}$
 $\therefore$ Side of the square is 20 cm.

Solution 3:

Perimeter of a rectangle $= 2(l + b)$
 $\therefore 2(7 + b) = 62$
But, $2 \times 31 = 62$
 $\therefore 7 + b = 31$

Sum of 7 and 24 is 31

$$\therefore b = 24$$

$\therefore$ The breadth of the rectangle is 24 cm.

Solution 4:

Let the two equal sides be b, c and given $b = c$

The sides of the triangle are 15, b, c

Perimeter of a triangle = $a + b + c$

$$\therefore 55 = 15 + b + b$$

$$\therefore 55 = 15 + 2b$$

$$\text{But, } 15 + 40 = 55$$

$$\therefore 2b = 40$$

$$\therefore b = 20$$

$\therefore$ Length of each of remaining sides is 20 cm.

Solution 5:

Perimeter of a rectangle = $2(l + b)$

$$\therefore 2(l + 30) = 100$$

$$\text{But, } 2 \times 50 = 100$$

$$\therefore l + 30 = 50$$

Sum of 30 and 20 is 50

$$\therefore l = 20$$

$\therefore$ The breadth of the rectangular pool is 20 m.

Solution 6:

Perimeter of a square = $4 \times x$

$$\therefore 16 = 4 \times x$$

$$\text{But, } 4 \times 4 = 16$$

$$\therefore x = 4$$

The length of each side of the square room = 4 m.

Solution 7:

Length of the rectangle (l) = 50 cm

Breadth of the rectangle (b) = 30 cm

Perimeter of a rectangle

$$= 2(l + b)$$

$$= 2(50 + 30)$$

$$= 2(80)$$

$$= 160 \text{ cm}$$

$$\therefore \text{Length of the wire} = 160 \text{ cm}$$

Now, the wire is bent into a square.

$\therefore$ Perimeter of a square = $4 \times x$

$$\therefore 160 = 4 \times x$$

$$\text{But, } 4 \times 40 = 160$$

$$\therefore x = 40$$

Length of each side of the square is 40 cm.