IMPORTANT POINTS

1. **Perimeter**: It is the length of the boundary of the given figure.
   (i) Perimeter of a triangle = Sum of its three sides.
   (ii) Perimeter of rectangle = 2 (length + breadth)
   (iii) Perimeter of square = 4 x side.

2. **Area**: Area is the measure of surface of the plane covered by a closed plane figure.
   In other words, we can say that area of a closed plane figure is the measure of its interior region.
   (i) Area of rectangle = length x breadth
   (ii) Area of square = (side)².

3. **Units of measurement of perimeter and area**:
   (i) Perimeter is measured in centimetre (cm) metre (m) or millimeter (mm).
   (ii) Area is measured in square mm, square cm or square metre.

**EXERCISE 32 (A)**

**Question 1.**
What do you understand by a plane closed figure?
**Solution:**
Any geometrical plane figure bounded by lines (straight or curved) in a plane is called a plane closed figure.
Each of the following figures is a plane closed figure.

**Question 2.**
The interior of a figure is called region of the figure. Is this statement true?
**Solution:**
Yes. The interior of the figure alongwith its boundary is called region of the figure.

**Question 3.**
Find the perimeter of each of the following closed figures:
Solution:
(i) Required perimeter
\[= AB + AC + BE + EF + FH + HG + HD\]
\[= 15 + 5 + 25 + 10 + 5 + 15 + 25 = 110 \text{ cm}\]

(ii) Required perimeter
\[= AB + AC + CD + DG + BF + EF + EH + GH\]
\[= 20 + 4 + 8 + 20 + 4 + 8 + 20 + 4 = 88 \text{ cm}\]

Question 4.
Find the perimeter of a rectangle whose:
(i) length = 40 cm and breadth = 35 cm
(ii) length = 10 m and breadth = 8 m
(iii) length = 8 m and breadth = 80 cm
(iv) length = 3.6 m and breadth = 2.4 m

Solution:
(i) length = 40 cm and breadth = 35 cm
\[\therefore \text{Perimeter} = 2 \text{ (length + breadth)}\]
\[= 2 \times (40 \text{ cm} + 35 \text{ cm})\]
\[= 2 \times 75 \text{ cm}\]
\[= 150 \text{ cm} = \frac{150}{100}\]
\[= 1.5 \text{ m}\]

(ii) length = 10 m and breadth = 8 m
Perimeter = 2 (length + breadth)
= 2 (10 m + 8 m)
= 2 x 18 m = 54 m

(iii) length = 8 m and
breadth = 80 cm
Length = 8 m
Breadth = 80 cm = \( \frac{80}{100} \) m = 0.8 m
∴ Perimeter = 2 (length + breadth)
= 2 (8 m + 0.8 m)
= 2 x 8.8 m = 17.6 m

(iv) length = 3.6 m and breadth = 2.4 m
∴ Perimeter = 2 (length + breadth)
= 2 (3.6 m + 2.4 m)
= 2 x 6 m = 12 m

Question 5.
If P denotes perimeter of a rectangle, l denotes its length and b denotes its breadth, find :
(i) l, if P = 38 cm and b = 7 cm
(ii) b, if P = 3.2 m and l = 100 cm
(iii) P, if l = 2 m and b = 75 cm

Solution:
(i) \( l \), if \( P = 38 \text{cm} \) and \( b = 7 \text{cm} \)

Length, \( l = \frac{P}{2} - b \)

\[
\begin{align*}
&= \frac{38}{2} - 7 \text{cm} \\
&= 19 \text{ cm} - 7 \text{ cm} = 10 \text{ cm} \text{ Ans.}
\end{align*}
\]

(ii) \( b \), if \( P = 3.2 \text{m} \) and \( l = 100 \text{ cm} \)

\[
\begin{align*}
\therefore 100 \text{cm} &= \frac{100}{100} \text{m} = 1 \text{m} \\
\text{Breadth, } (b) &= \frac{P}{2} - l
\end{align*}
\]

\[
\begin{align*}
&= \frac{3.2}{2} \text{ m} - 1 \text{m} \\
&= 1.6 \text{ m} - 1 \text{m} = 0.6 \text{ Ans.}
\end{align*}
\]

(iii) \( P \), if \( l = 2 \text{ m} \) and \( b = 75 \text{cm} \)

\[
\begin{align*}
\therefore b = 75 \text{cm} \cdot \frac{75}{100} \text{m} = 0.75 \text{m}
\end{align*}
\]

\[
\begin{align*}
\therefore \text{ Perimeter} &= 2 \left( l + b \right) \\
&= 2 \left( 2 + 0.75 \right) \\
&= 2 \left( 2.75 \right) \\
&= 5.5 \text{ cm} \text{ Ans.}
\end{align*}
\]

**Question 6.**

Find the perimeter of a square whose each side is 1.6 m.

**Solution:**

\[
\begin{align*}
\therefore \text{ Side of the square} &= 1.6 \text{ m} \\
\therefore \text{ its perimeter} &= 4 \times \text{ side} \\
&= 4 \times 1.6 \text{ m} \\
&= 6.4 \text{ m}
\end{align*}
\]

**Question 7.**

Find the side of the square whose perimeter is 5 m.
Solution:

Perimeter of the square = 5 m

\[ \text{Its side} = \frac{\text{Perimeter}}{4} \]

\[ = \frac{5}{4} m = 1.25 \text{ m Ans.} \]

Question 8.
A square field has each side 70 m whereas a rectangular field has length = 50 m and breadth = 40 m. Which of the two fields has greater perimeter and by how much?
Solution:
Perimeter of the square field = 4 x side = 4 x 70m = 280m
Perimeter of rectangular field = 2 (length + breadth)
= 2 (50 m + 40 m)
= 2 x 90 m
= 180 m
\[ \therefore \text{Square field has greater perimeter by} \ 280 \text{ m} - 180 \text{ m} = 100 \text{ m} \]

Question 9.
A rectangular field has length = 160m and breadth = 120 m. Find:
(i) the perimeter of the field.
(ii) the length of fence required to enclose the field.
(iii) the cost of fencing the field at the rate of ₹ 80 per metre.
Solution:
Given = length = 160 m, breadth = 120m
(i) The Perimeter of the field = 2 (l + b)
= 2 (160 m + 120 m)
= 2 x 280
= 560 m
(ii) The length of fence required to enclose the field = The perimeter of the rectangular field
= 560 m
(iii) The cost of fencing the field = Length of fence x Rate of fence
= 560 m x ₹80 per metre
= ₹44,800

Question 10.
Each side of a square plot of land is 55 m. Find the cost of fencing the plot at the rate of ₹32 per metre.
Solution:
\[ \text{Perimeter of square field} = 4 \times \text{its side} = 4 \times 55 \text{ m} \]
\[ \therefore \text{Length of required fencing} = 220 \text{ m} \text{ Now, the cost of fencing} = \text{its length} \times \text{its rate} \]
= 220 m x ₹32 per metre?
= ₹7040

Question 11.
Each side of a square field is 70 cm. How much distance will a boy walk in order to make?
(i) one complete round of this field?
(ii) 8 complete rounds of this field?
Solution:
(i) Distance covered by the boy to make one complete round of the field.
Perimeter of the field : 4 x its side = 4 x 70 = 280 m
(ii) Distance covered by the boy to make 8 complete rounds of this field.
= 280 m x 8 m = 2240 m

Question 12.
A school playground is rectangular in shape with length = 120 m and breadth = 90 m. Some school boys run along the boundary of the playground and make 15 complete rounds in 45 minutes. How much distance they run during this period.
Solution:
Length of the rectangular playground = 120 m
Breadth of the rectangular playground = 90 m
∴ Perimeter of the rectangular ground = 2(l + b)
= 2(120 + 90) m = 420 m
Thus, in one complete round, boys covers a distance of = 420 m
∴ Distance covered in 15 complete rounds = 420 m x 15 = 6300 m

Question 13.
Mohit makes 8 full rounds of a rectangular field with length = 120 m and breadth = 75 m.
John makes 10 full rounds of a square field with each side 100 in. Find who covers larger distance and by how much?
Solution:
Mohit
Length of the rectangular field = 120
Breadth of the rectangular field = 75 m
∴ Distance covered in one round (perimeter) = 2(l + b)
= 2(120 + 75) = 390 m Hence, distance covered in 8 rounds = 390 x 8 m = 3120 m
John
Side of the field = 100 m
∴ Distance covered in one round = 4 x a = 4 x 100 = 400 m
Hence, Distance covered in 10 rounds = 400 x 10 m = 4000 m
John a covers greater distance then Mohit by = (4000-3120) m = 880 m

Question 14.
The length of a rectangle is twice of its breadth. If its perimeter is 60 cm, find its
length.

**Solution:**
Let the breadth of the field = x cm
∴ its length = 2x
and, its perimeter = 2 x (length + breadth)
= 2 x (2x + x)
= 2(3x)
= 6x cm
Perimeter = 60 cm
⇒ 60 cm = 6x cm
⇒ x = \(\frac{60}{6}\) = 10 cm
∴ Breadth = x = 10 cm
Length = 2x = 2 x 10 = 20 cm

**Question 15.**
Find the perimeter of:
(i) an equilateral triangle of side 9.8 cm.
(ii) an isosceles triangle with each equal side = 13 cm and the third side = 10 cm.
(iii) a regular pentagon of side 8.2 cm.
(iv) a regular hexagon of side 6.5 cm.

**Solution:**
(i) The perimeter of equilateral triangle = 3 x side
= 3 x 9.8 cm
= 29.4 cm
(ii) Required perimeter = 13 cm + 13 cm + 10 cm
= 36 cm
(iii) Perimeter of given pentagon = 5 x side = 5 x 8.2 cm
= 41 cm
(iv) Perimeter of given hexagon = 6 x side = 6 x 6.5 cm
= 39 cm

**Question 16.**
An equilateral triangle and a square has equal perimeter. If side of the triangle is 9.6 cm ; what is the length of the side of the square ?

**Solution:**
Perimeter of equilateral triangle = Perimeter of square Side of triangle = 9.6 cm
.: Perimeter of triangle = 3 x side
= 3 x 9.6 cm = 28.8 cm
> Perimeter of the square = 28.8 cm
4 x the side of square = 28.8 cm
⇒ The side of the square = \(\frac{28.8}{4}\) cm
= 7.2 cm Ans.

**Question 17.**
A rectangle with length = 18 cm and breadth = 12 cm has same perimeter as that
of a regular pentagon. Find the side of the pentagon.

**Solution:**
Length of rectangle = 18 cm
Breadth of rectangle = 12 cm
∴ Perimeter of rectangle = 2 x (l + b)
= 2 x (18+12)
= 2 x 30 = 60 cm
∴ Perimeter of rectangle = Perimeter of pentagon
60 cm = 5 x side
side = $\frac{60}{5}$ cm = 12 cm
∴ Side of the pentagon = 12 cm Ans.

**Question 18.**
A regular pentagon of each side 12 cm has same perimeter as that of a regular hexagon. Find the length of each side of the hexagon.

**Solution:**
Perimeter of regular pentagon = 5 x length of the side
= 5 x 12 cm = 60 cm
Clearly, perimeter of the given pentagon = 60 cm
⇒ 6 x side of hexagon = 60 cm
⇒ side of hexagon = $\frac{60}{6}$ cm = 10 cm

**Question 19.**
Each side of a square is 45 cm and a rectangle has length 50 cm. If the perimeters of both (square and rectangle) are same, find the breadth of the rectangle.

**Solution:**
Side of a square = 45 cm
∴ Perimeter = $4a = 4 \times 45$ cm = 180 cm
or Perimeter of rectangle = 180 cm
Length of rectangle = 50 cm
∴ Breadth = $\frac{P}{2} - l = \frac{180}{2} - 50$
  = 90 - 50 = 40 Ans.

**Question 20.**
A wire is bent in the form of an equilateral triangle of each side 20 cm. If the same wire is bent in the form of a square, find the side of the square.

**Solution:**
Each side of the given equilateral triangle = 20 cm
∴ Perimeter of the triangle = 3 x side = 3 x 20 cm = 60 cm
∴ Perimeter of the square = Perimeter of equilateral triangle
⇒ 4 x side of square = 60 cm
⇒ The side of the square = \( \frac{60}{4} \) = 15 cm

**EXERCISE 32 (B)**

**Question 1.**
Find the area of a rectangle whose:
(i) length = 15 cm breadth = 6.4 cm
(ii) Length = 8.5 m breadth = 5 m
(iii) Length = 3.6 m breadth = 90 cm
(iv) Length = 24 cm breadth = 180 mm

**Solution:**
(i) length = 15 cm and breadth = 6.4 cm
⇒ Area of the rectangle = length \times breadth
= 15 cm \times 6.4 cm
= 96 cm²
(ii) Length = 8.5 m and breadth = 5 m
⇒ Area of the rectangle = length \times breadth
= 8.5 m \times 5 m
= 42.5 m²
(iii) Length = 3.6 m and breadth = 90 cm
⇒ Area of the rectangle = length \times breadth
= 3.6 m \times 0.9 m
\[
\text{[Since } 90 \text{ cm} = \frac{90}{100} \text{ m} = 0.9 \text{ m}] \\
= 3.24 \text{ m}²
\]
(iv) Length = 24 cm and breadth = 180 mm
⇒ length = 24 cm
breadth = 180 mm = \( \frac{180}{10} \) cm = 18 cm
⇒ Area of the rectangle = length \times breadth
= 24 cm \times 18 cm
= 432 cm²

**Question 2.**
Find the area of a square, whose each side is:
(i) 7.2 cm
(ii) 4.5 m
(iii) 4.1 cm

**Solution:**
(i) 7.2 cm
Area of the square = (side)$^2$ = (7.2 cm)$^2$ = 7.2 cm x 7.2 cm = 51.84 cm²
(ii) 4.5 m
Area of the square = (side)$^2$ = (4.5 m)$^2$ = 4.5 m x 4.5 m = 20.25 m²
(iii) 4.1 cm
Area of the square = (side)$^2$ = (4.1 cm)$^2$ = 4.1 cm x 4.1 cm = 16.81 cm²

Question 3.
If A denotes area of a rectangle, l represents its length and b represents its breadth, find:
(i) l, if A = 48 cm² and b = 6 cm
(ii) b, if A = 88 m² and l = 8m
Solution:
(i) $l = \frac{A}{b}$ \hspace{1cm} [∵ $A = l \times b \Rightarrow l = \frac{A}{b}$]
\Rightarrow l = \frac{48 \text{cm}^2}{6\text{cm}} = 8 \text{ cm}
(ii) $b = \frac{A}{l}$ \hspace{1cm} [∵ $A = l \times b \Rightarrow b = \frac{A}{l}$]
\Rightarrow b = \frac{88 \text{cm}^2}{8\text{cm}} = 11 \text{ m}

Question 4.
Each side of a square is 3.6 cm; find its
(i) perimeter
(ii) area.
Solution:
(i) Perimeter = 4 x side
= 4 x 3.6 cm = 14.4 cm
(ii) Area = (side)$^2$
= (3.6 cm)$^2$
= 12.96 cm²

Question 5.
The perimeter of a square is 60 m, find:
(i) its each side its area
(ii) its new area obtained on increasing
(iii) each of its sides by 2 m.
Solution:
Perimeter of a square = 60 m
(i) Perimeter of a square = 4 x side
60 m = 4 x side
\[ \frac{60}{4} = \text{side} \]
\[ \text{side} = 15 \text{ m} \]
(ii) Area of square = (side)^2 = (15 m)^2
= 15 m x 15 m
= 225 m^2
(iii) Increased each side = 2 m
Side of square = 15 m
New length of side = (2m + 15m)
= 17m
∴ New Area of square = (17m)^2 = 17m x 17m = 289 m^2

**Question 6.**
Each side of a square is 7 m. If its each side be increased by 3 m, what will be the increase in its area.

**Solution:**
Each side of square = 7 m
∴ Area of square = (side)^2 = (7 m)^2
= 7m x 7m = 49 m^2
∴ Side increased by 3 m
∴ Total length of side will be = 3 m + 7 m = 10m
∴ Area of square = (10 m)^2 = 10m x 10 m = 100 m^2
∴ Increase in area = 100 m^2 – 49 m^2 = 51 m^2

**Question 7.**
The perimeter of a square field is numerically equal to its area. Find each side of the square.

**Solution:**
Perimeter of square = Area of square
∴ 4a = a^2
⇒ \[ \frac{a^2}{a} = 4 \]
⇒ a = 4
∴ each side of square = 4

**Question 8.**
A rectangular piece of paper has area = 24 cm^2 and length = 5 cm. Find its perimeter.
Solution:

\[ \therefore \text{Area of rectangle} = \text{length} \times \text{breadth} \]
\[ \Rightarrow 24 \text{ cm}^2 = 5 \text{ cm} \times \text{breadth} \]
\[ \Rightarrow \text{breadth} = \frac{24 \text{ cm}^2}{5 \text{ cm}} = 4.8 \text{ cm} \]

and, perimeter = \(2 \times (l + b)\)
\[ = 2 \times (5 \text{ cm} + 4.8 \text{ cm}) \]
\[ = 2 \times 9.8 \text{ cm} \]
\[ = 19.6 \text{ cm} \text{ Ans.} \]

**Question 9.**
Find the perimeter of a rectangle whose area = 2600 m² and breadth = 50 m.

**Solution:**

\[ \therefore \text{Area of rectangle} = 2600 \text{ m}^2 \]
and breadth = 50 m

\[ \therefore \text{its length} = \frac{\text{Area}}{\text{Breadth}} \]
\[ = \frac{2600\text{cm}^2}{50\text{cm}} = 52 \text{ cm} \]

\[ \Rightarrow \text{Perimeter of the rectangle} \]
\[ = 2 \times (\text{length} + \text{breadth}) \]
\[ = 2 \times (52 \text{ cm} + 50 \text{ cm}) \]
\[ = 2 \times 102 = 204 \text{ cm} \]

**Question 10.**
What will happen to the area of a rectangle, if its length and breadth both are trebled?

**Solution:**
Let the original length of the rectangle = \(l\) and its original breadth = \(b\)
\[ \therefore \text{its original area} = \text{length} \times \text{breadth} \text{ i.e} \ A = l \times b \text{ i.e.} \]
Since,
Increased length =3l
and, increased breadth = 3b
\[ \therefore \text{New area} = 3l \times 3b = 9 \times l \times b \text{ [\(\because A = l \times b\)]} \]
\[ \Rightarrow \text{Area of the new rectangle} = 9 \times \text{times than area of original rectangle} \]
Question 11.
Length of a rectangle is 30 m and its breadth is 20 m. Find the increase in its area if its length is increased by 10 m and its breadth is doubled.

Solution:
Length of a rectangle (l) = 30 m,  
Breadth of the rectangle (b) = 20 m  
Area of rectangle = l x b  
= 30 x 20 = 600 m²  
Since, the length its increased by 10 m and breadth is doubled  
∴ New length (l) = (30 + 10) m = 40 m  
and new breadth = (20 x 2) m = 40 m  
∴ New area = l x b = 40 x 40 m² = 1600 m²  
Hence, the increase in the area = (1600 – 600) m²  
= 1000 m²

Question 12.
The side of a square field is 16 m. What will be increase in its area, if:  
(i) each of its sides is increased by 4 m  
(ii) each of its sides is doubled.

Solution:
Side of the square field (a) = 16 m  
∴ Area of the square field = (a)²  
= 16 x 16 m² = 256 m²  
(i) Each of its sides increased by 4 m  
∴ New side = (16 + 4) m = 20 m  
∴ New area of the square field = (a)²  
= 20 x 20 m² = 400 m²  
(ii) Each of its side is doubled  
∴ New side = 16 x 2 = 32 m  
∴ New area of the square field = (a)²  
= 32 x 32 m² = 1024 m²

Question 13.
Each rectangular tile is 40 cm long and 30 cm wide. How many tiles will be required to cover the floor of a room with length = 4.8 m and breadth = 2.4 m.
Solution:

Area of each rectangular tiles

\[= 40 \text{ cm} \times 30 \text{ cm}\]

\[= 0.4 \text{ m} \times 0.3 \text{ m} = 0.12 \text{ m}^2\]

\[\Rightarrow \text{Area to be covered by the tiles} = 4.8 \text{ m} \times 2.4 \text{ m} = 11.52 \text{ m}^2\]

\[\therefore \text{Required number of tiles} = \frac{\text{Area to be covered by tiles}}{\text{Area of each tile}}\]

\[= \frac{15.36 \text{ m}^2}{0.12} = 128\]

Question 14.
Each side of a square tile is 60 cm. How many tiles will be required to cover the floor of a hall with length = 50 m and breadth = 36 m.

Solution:

Area of each square tile = (side)^2

\[= (60 \text{ cm})^2 = (0.6 \text{ m})^2\]

\[= 0.6 \text{ m} \times 0.6 \text{ m} = 0.36 \text{ m}^2\]

And, area to be covered by the tiles = length \times breadth

\[= 50 \text{ m} \times 36 \text{ m}\]

\[= 1800 \text{ m}^2\]

\[\therefore \text{Required no. of tiles} = \frac{\text{Area to be covered by tiles}}{\text{Area of each tile}}\]

\[= \frac{1800 \text{ m}^2}{0.36 \text{ m}^2} = 5000\]

Question 15.
The perimeter of a square plot = 360 m. Find :
(i) its area.
(ii) cost of fencing its boundary at the rate of ₹ 40 per metre.
(iii) cost of levelling the plot at ₹60 per square metre.

Solution:
Given, perimeter of square plot = 360 m

\[\therefore \text{Perimeter of the square} = 4 \times \text{its side}\]
∴ 4 \times \text{side of square} = 360 \text{ m} \\
⇒ \text{side of the square} = \frac{360\text{m}}{4} = 90 \text{ m} \\
(i) \text{The area of the square field} = (\text{side})^2 \\
= (90 \text{ m})^2 \\
= 90 \text{ m} \times 90 \text{ m} \\
= 8100 \text{ m}^2 \\
\text{Cost of fencing at ₹ 40 per metre} \\
= 8100 \text{ m}^2 \times ₹ 40 \text{ per metre} \\
= ₹ 324000 \\
\text{Cost of levelling at ₹} 60 \text{ per m}^2 \\
= 8100 \text{ m}^2 \times ₹ 60 \text{ per m}^2 \\
= ₹ 486000

**Question 16.** 
The perimeter of a rectangular field is 500 m and its length = 150 m. Find: (i) its breadth, (ii) its area. (iii) cost of ploughing the field at the rate of ₹1.20 per square metre. 
**Solution:** 
(i) Perimeter of a rectangle = 2 \times (\text{length} + \text{breadth}) \\
⇒ 500 \text{ m} = 2 \times (150 \text{ m} + \text{breadth}) \\
⇒ 250 \text{ m} – 150 \text{ m} = \text{breadth} \\
∴ \text{breadth} = 100 \text{ m} \\
(ii) \text{Area of rectangular field} = \text{length} \times \text{breadth} \\
= 150 \text{ m} \times 100 \text{ m} = 15000 \text{ m}^2 \\
(iii) \text{Cost of ploughing the field at the rate of} \\
= ₹1.20 \text{ per square m}^2= \text{area of the field} \times \text{rate of ploughing} = 15000 \text{ m}^2 \times ₹1.20 \text{ per square metre} \\
= ₹18000

**Question 17.** 
The cost of flooring a hall of ₹64 per square metre is ₹2,048. If the breadth of the hall is 5m, find: (i) its length. (ii) its perimeter. (iii) cost of fixing a border of very small width along its boundary at the rate of ₹60 per square metre. 
**Solution:**
Total cost of flooring the room = ₹2,048
and, cost of flooring per square metre = ₹64

Area of the room = \[
\frac{\text{Total cost of flooring}}{\text{cost of flooring per square metre}}
\]
\[
= \frac{2048}{64} \text{ m}^2 = 32 \text{ m}^2
\]

(i) \[
\therefore \text{ length } \times \text{ breadth } = \text{ area}
\]
\[
= \text{ length } \times 5 \text{ m } = 32 \text{ m}^2
\]
\[
\Rightarrow \text{ length } = \frac{32 \text{ m}^2}{5 \text{ m}} = 6.4 \text{ m}
\]

(ii) Perimeter = \[
2 \times (\text{length } + \text{ breadth})
\]
\[
= 2 \times (6.4 \text{ m } + 5 \text{ m})
\]
\[
= 2 \times 11.4 \text{ m}
\]
\[
= 22.8 \text{ m}
\]

(iii) Cost of fixing a border at the rate of ₹60 per m² = \[
\text{area of hall } \times \text{ rate of fixing}
\]
\[
= 32 \text{ m}^2 \times ₹60 \text{ per m}^2
\]
\[
= ₹1920
\]

**Question 18.**
The length of a rectangle is three times its breadth. If the area of the rectangle is 1875 sq. cm, find its perimeter.
Solution:

Let the breadth of a rectangle = \( x \)
and the length of a rectangle = \( 3x \)

\[ \therefore \text{ Area of the rectangle } = l \times b \]

\[ \Rightarrow 1875 \text{ cm}^2 = x \times 3x \]
\[ \Rightarrow 3x^2 = 1875 \]

\[ \Rightarrow x^2 = \frac{1875}{3} \]
\[ \Rightarrow x = \sqrt{\frac{1875}{3}} \]

\[ \Rightarrow x = 25 \text{ cm} \]

\[ \therefore \text{ Breadth of a rectangle } = 25 \text{ cm} \]
and length of a rectangle = \( 3 \times 25 \) cm = 75 cm

Now, perimeter of a rectangle = \( 2(l + b) \)

\[ = 2(75 + 25) \text{ cm} \]
\[ = 2 \times 100 \text{ cm} = 200 \text{ cm} \]