



MATHS

BOOKS - MTG IIT JEE FOUNDATION

MENSURATION

Illustration

1. Figure shows a plot whose dimensions are

given. Find the perimeter of the plot.



2. Figure shows an octagon whose dimensions

are given. Find its perimeter.



3. Find the perimeter of a rectangle whose length and breadth are 5m and 2m respectively.

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4. Find the perimeter of a triangular park if all of its side are equal and measure of a side is

3.5 m.



5. Find the perimeter (in m) of square of side 150 cm.



6. If perimeter of a regular hexagon is 108 cm,

what is the length of its sides ?

7. Find the area of a rectangle whose length is

4.8 cm and breadth is 3.2 cm.

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8. A rectangular piece of cloth has area $432cm^2$. If its length is 16 cm long. Find its breadth.

9. What will be the area of square of side 7 cm



?

10. The area of a rectangular sheet is 750 cm^2 . If the length of the sheet is 25 cm, then what is its width ?

11. Find the area of a rectangular sheet whose

length is 3 m and breadth is 2 m.

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Solved Examples

1. Find the perimeter of the following figure :





2. Find the area of the following figure by counting squares.





3. A rectangular field is 80 m by 70 m. A man walks round it at the rate of 3 km per hour. What time will he take in making 5 rounds ?

4. Split the following shape into rectangles and find the area (in sq. cm).



5. A piece of rope is 42 cm long. What will be the length of each side if the rope is used to form :

an equilateral triangle ?

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6. A piece of rope is 42 cm long. What will be

the length of each side if the rope is used to

form :

a regular hexagon ?





7. Find the area and the perimeter of a square

each of whose sides is 6.3 cm long.



8. Find the perimeter of the given figure : BCDE

is a square and ABC is an equilateral triangle.





9. How many marble tiles of $12cm \times 3cm$ will be needed to fit in a rectangular region of length 90 cm and breadth 40 cm ?





10. Two plots of land have the same perimeter. One is square of side 60 m while the other is a rectangle whose breadth is 15 m. Which of the plots as greater area and by how much ?



11. The length and the breadth of a rectangle are in the ratio 3:2. If its perimeter is 30 cm, find its dimensions.



12. Find the distance walked by Arshu if he

walks three rounds of a square park of side 60

m.



13. The length and breadth of a room are 6 m and 4m respectively. How many square metres of carpet are required to completely cover the floor of the room ? If the carpet costsRs. 240 a

square metre, how much will it cost to cover

the entire room ?

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14. The total cost of flooring a room at Rs. 8.50

per square metre is Rs. 510. If the length of the

room is 8 metres, find its breadth.

15. A farmer has a rectangular field which measures 350 m by 240 m. He hopes that by sowing a variety of wheat, the yield will be 25 quintals per hectare. And it will sell in the market at Rs. 160 per quintal. What will be his expected income ?

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16. A rectangular courtyard is 3m 78 cm long and 5m 25 cm broad. It is desired to prove it

with square tiles of the same size. What is the

largest size of the tile that can be used ? Also

find the number of such tiles.

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Ncert Section Exercise 101

1. Find the perimeter of each of the following figure :



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2. Find the perimeter of each of the following

figure :





4. Find the perimeter of each of the following

figure :



5. Find the perimeter of each of the following

figure :





6. Find the perimeter of each of the following

figure :



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7. 2. The lid of a rectangular box of sides 40 cm

by 10 cm is sealed all round with tape. What is

the length of the tape required?

8. A rectangular pool measures 20m by 10m . What is the perimeter of the pool ?



9. What is the length of the wooden strip

required to frame a photograph of length and

breadth 32 cm and 21 cm respectively?



10. A rectangular piece of land measures 0.7 km by 0.5 km. Each side is to be fenced with 4 rows of wires. What is the length of the wire needed?



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11. Find the perimeter of each of the following

shapes :

A triangle of sides 3 cm, 4 cm and 5 cm.

12. Find the perimeter of each of the following

shapes :

An equilateral triangle of side 9 cm.



13. Find the perimeter of each of the following shapes :

An isosceles triangle with equal sides 8 cm

each and third side 6 cm.



14. Find the perimeter of a triangle with sides

measuring 10 cm, 14 cm and 15 cm.

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15. Find the perimeter of a square with each side measuring 4 m.

16. Find the side of the regular hexagon whose

perimeter is 36 m.

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17. The perimeter of a regular pentagon is 250

cm. How long is its each side ?

18. A piece of string is 30 cm long. What will be the length of each side if the string is used to form :

a square ?

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19. A piece of string is 30 cm long. What will be

the length of each side if the string is used to

form :

an equilateral triangle ?



20. A piece of string is 30 cm long. What will be the length of each side if the string is used to form :

a regular hexagon ?

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21. One side of an isosceles triangle is 16 cm . The perimeter of the triangle is 40 cm. Find the other two sides ?



23. Find the cost of fencing a rectangular park

of length 175m and breadth 125m at the rate

of Rs. 12 per meter.

24. Sweety runs around a square park of side 75 m. Bulbul runs around a rectangular park with length 60 m and breadth 45 m. Who covers less distance?

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30 cm







29. Avneet buys 9 square paving slabs, each with a side of $\frac{1}{2}m$. He lays them in the form of a square. (a) What is the perimeter of his arrangement.
30. Avneet buys 9 square paving slabs, each with a side of $\frac{1}{2}m$. He lays them in the form of a square.

Shari does not like his arrangement. She gets him to lay them out like a cross. What is the perimeter of her arrangement [see fig. (ii)]





31. Avneet buys 9 square paving slabs, each with a side of $\frac{1}{2}m$. He lays them in the form of a square.

Which has greater perimeter ?





32. Avneet buys 9 square paving slabs, each with a side of $rac{1}{2}m$. He lays them in the form of a square. What is the perimeter of his arrangement? Shari does not like his arrangement. She gets him to lay them out like a cross. What is the perimeter of her arrangement? Which has greater perimeter? Avneet wonders, if there is a way of getting an even greater perimeter. Can you find a way of doing this? (The paving slabs must meet along complete edges they cannot be broken).

Ncert Section Exercise 10 2

1. Find the areas of the following figures by

counting square :







counting square :







counting square :



counting square :







counting square :



counting square :



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7. Find the areas of the following figures by

counting square :











counting square :















Ncert Section Exercise 10 3

1. Find the areas of the rectangles whose sides



2. Find the areas of the rectangles whose sides

are :

12 m and 21 m

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3. Find the areas of the rectangles whose sides



5. Find the areas of the squares whose sides



7. Find the areas of the squares whose sides



8. The length and breadth of a rectangle is given below :

9 m and 6 m

Find its area ?

9. The length and breadth of a rectangle is

given below :

17 m and 3 m

Find its area ?

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10. The length and breadth of three rectangles are as given below : (a) 9 m and 6 m (b) 17 m and 3 m (c) 4 m and 14 m Which one has the largest area and which one has the smallest?





11. The area of a rectangular garden $50m \log 1$

is 300sq m. Find the width of the garden.



12. What is the cost of tiling a rectangular plot

of land 500 m long and 200 m wide at the rate

of Rs 8 per hundred sq m.?

13. A table-top measures 2 m by 1 m 50 cm.

What is its area in square metres?

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14. A room is 4 m long and 3 m 50 cm wide.

How many square metres of carpet is needed

to cover the floor of the room?

15. A floor is 5 m long and 4 m wide. A square

carpet of sides 3 m is laid on the floor. Find the

area of the floor that is not carpeted.



16. Five square flower beds each of sides 1 m are dug on a piece of land 5 m long and 4 m wide. What is the area of the remaining part of the land?



17. By splitting the following figures into rectangles, find their areas (The measures are given in centimetres).



18. By splitting the following figures into rectangles, find their areas (The measures are given in centimetres).



19. Split the following shapes into rectangles and find their areas. (The measures are given in centimetres)



20. Split the following shapes into rectangles and find their areas. (The measures are given

in centimetres)



21. Split the following shapes into rectangles and find their areas. (The measures are given in centimetres)

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22. How many tiles whose length and breadth are 12 cm and 5 cm respectively will be needed to fit in a rectangular region whose length and breadth are respectively: (a) 100 cm and 144 cm (b) 70 cm and 36 cm.



23. How many tiles whose length and breadth are 12 cm and 5 cm respectively will be needed to fit in a rectangular region whose length and breadth are respectively: (a) 100 cm and 144 cm (b) 70 cm and 36 cm.

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Exercise Multiple Choice Questions Level I

1. Each side of a square measures 5.6 cm. The

perimeter of the square is _____ .

A. 23.5 cm

B. 22 cm

C. 22.4 cm

D. $22.4cm^2$

Answer: C

A. 144 cm

B. 144 sq.cm

C. 48 cm

D. 48 sq. cm

Answer: B

3. Each side of a regular hexagon is 9.6 cm.Find its perimeter.

A. 57.6 sq. cm

B. 1.6 sq. cm

C. 1.6 cm

D. 57.6 cm

Answer: D

4. What is the perimeter of the following

figure?



- A. 24 units
- B. 26 units
- C. 12 units
- D. 22 units

Answer: D



5. How many cm^2 are there in $1m^2$?

A. 100

B. 1000

C. 10

D. 10000

Answer: D



6. The distance around a closed figure is called

its _____ .

A. Volume

B. Area

C. Perimeter

D. None of these

Answer: C





7. What is the length of side of a regular pentagon having perimeter 5.35 cm?

A. 1.7 cm

B. 26.75 cm

C. 1.07 cm

D. 107 cm

Answer: C
8. What is the area of the rectangle with length l and breadth b?

A.
$$2(l-b)$$

B. $2(l+b)$
C. $2(l imes b)$
D. $l imes b$

Answer: D



9. What is the perimeter of an isosceles triangle with equal sides 9 cm each and the third side 5 cm?

A. 40 cm

B. 23 cm

C. 22 cm

D. 69 cm

Answer: B

10. What is the length of a rectangle with area

 $12.5m^2$ and the breadth 5 m?

A. 25 m

B. 2.5 m

 $C. 2.5m^2$

D. 62.5 m

Answer: B

11. The sum of all the sides of a closed plane

figure is _____.

A. Perimeter

B. Volume

C. Area

D. None of these

Answer: A

12. The shape whose perimeter is four times

the length of its side is _____.

A. Pentagon

B. Hexagon

C. Rectangle

D. Square

Answer: D

13. Length of 13 - sided regular figure whose

perimeter is 169 cm, is _____ .

A. 13 cm

 $\mathsf{B.}\,52cm^2$

 $C. 13 cm^2$

D. 52 cm

Answer: A

14. The perimeter of a rectangle with length l

and breadth b is _____ .

A. 2(l imes b)

B.2(l-b)

C.2(l+b)

 $\mathsf{D}.\,l+b$

Answer: C

15. The area of a piece of cloth which is 2 m

long and 1 m 30 cm wide is _____ .

A. $330 cm^2$

B. $6600 cm^2$

 $\mathsf{C.}\,26000 cm^2$

 $\mathsf{D.}\,26000m^2$

Answer: C

16. Perimeter of regular octagon is _____.

- A. 4 imes length of one side
- B. $6 \times$ length of one side
- C. $8 \times$ length of one side
- D. 7 imes length of one side

Answer: C

17. The cost of fencing a 15m imes 7mrectangular park at * 45 per metre is

A. Rs. 4275

B. Rs. 4725

C. Rs. 1980

D. Rs. 5427

Answer: C

18. If the area of a rectangle is $52.4m^2$, then its

possible dimensions are _____.

A. 15.1 m, 4 m

B. 26.2 m, 4 m

C. 15.8 m, 8 m

D. 13.1 m, 4 m

Answer: D

19. The area of a square with perimeter 40 cm

is _____ .

A. 1600 sq. cm

B. 10 sq. cm

C. 100 sq. cm

D. 250 sq. cm

Answer: B

20. Distance covered in moving 3 rounds of

square park of side 5 m is _____ .

A. 20 m

B. 60 m

C. 15 m

D. 30 m

Answer: B

21. What is the perimeter of a regular pentagon with a side of 3.5 cm ?

A. 17.5 cm

B. 28 cm

C. 15 cm

D. 12.25 cm

Answer: A

22. What is the area of a square having side of

21 cm ?

A. 112 cm

B. 321 cm

C. 441 cm

D. 121 cm

Answer: C

23. Which of the following is the area of the rectangle whose length is 4.2 cm and breadth is 1.3 cm ?

- A. $6.23 cm^2$
- $\mathsf{B.}\,11cm^2$
- $\mathsf{C.}\,5.46cm^2$
- $\mathsf{D.}\, 3.56 cm^2$

Answer: C



24. The length of each side of an equilateral triangle formed with a wire of length 96 cm is ____.

A. 23 cm

B. 32 cm

C. 28 cm

D. 96 cm

Answer: B

25. The area of a rectangle is $108cm^2$. If its length is 12 cm. The breadth of a rectangle is

A. 12 cm

B. 19 cm

C. 9 cm

D. 90 cm

Answer: C



26. Somesh wants to fence a rectangular field of length 150 m and breadth 80 m with four rounds of rope. What is the total length of rope he must use?

A. 460 m

B. 1840 m

C. 920 m

D. 380 m

Answer: B



27. How many square metre of glass will be required for windows, which has 15 panes, each measuring 16 cm by 15 cm?

A. $0.36cm^2$

 $\mathsf{B.}\,360 cm^2$

 $\mathsf{C.}\,36cm^2$

 $\mathsf{D.}\,3600 cm^2$

Answer: D



28. The perimeter of a regular nonagon is 513

cm. How long is its each side?

A. 57 cm

B. 171 cm

C. 64 cm

D. 53 cm

Answer: A

29. The perimeter of a rectangle is 200 cm and its breadth is 36 cm. Find the area of the rectangle.

A. $7200 cm^2$

 $\mathsf{B.}\,2304 cm^2$

C. $360 cm^2$

D. $18040 cm^2$

Answer: B



30. Find the area of square whose perimeter is

96 m.

- A. $384m^2$
- $\mathsf{B.}\,576m^2$
- $\mathsf{C.}\,2304m^2$
- D. $144m^2$

Answer: B



31. If the area of a square is $144cm^2$ and its perimeter is the same as the perimeter of an equilateral triangle, then what is the length of each side of the triangle?

A. 12 cm

B. 16 cm

C. 8 cm

D. 14 cm

Answer: B



32. What is the length of a rectangle with area

$7m^2$ and breadth 2.5 m?

A. 2.5 m

B. 0.025 m

C. 25 m

D. 2.8 m

Answer: D





33. The perimeter of a triangle is 115 cm. If two of its sides are 35 cm and 37 cm. Find the third side of the triangle.

A. 43 cm

B. 73 cm

C. 35 cm

D. 37 cm

Answer: A



34. A triangular garden needs to be fenced. If the length of the sides of the garden are 233 m, 225 m and 342 m, find the cost of fencing it at the rate of Rs. 35 per metre.

A. Rs. 2800

B. Rs. 28000

C. Rs. 27035

D. Rs. 28035

Answer: B



35. The cost of fencing a square field is Rs. 1976 at the rate of Rs. 26 per metre. What is the length of each side of the field?

A. 18 m

B. 19 m

C. 20 m

D. 13 m





Exercise Multiple Choice Questions Level Ii

 The cost of fencing a rectangular field at Rs.
8.50 per metre is Rs. 850. If its length is 32 m, find its breadth.

A. 18 m

B. 10 m

C. 8 m

D. 12 m

Answer: A



2. The side of a regular pentagonal shaped matallic wire measures 12 cm. If the wire is stretched out and made into a rectangle of width 12 cm, what will be the area of the rectangle?

A. 216 sq. cm

B. 144 sq. cm

C. 324 sq. cm

D. 72 sq. cm

Answer: A

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3. The side of the square is 6 cm. Two equilateral triangles are drawn as shown here.

Find the perimeter of the figure.



A. 60 cm

B. 36 cm

C. 42 cm

D. 48 cm

Answer: B

4. The side of an equilateral triangle measures 72 cm which is equal to the perimeter of a square shape. What is the length of the side of the square?

A. 18 cm

B. 36 cm

C. 54 cm

D. 108 cm

Answer: C



5. How many bricks whose length and breadth are 12 cm and 6 cm, respectively, will be needed to fit in a rectangular region that measures $90cm \times 120cm$?

A. 200

B. 150

C. 250

D. 100

Answer: B



6. The cost of flooring a rectangular room is Rs. 5698. The rate of flooring is Rs. 37 per square metre. If the room is 14 metres long, what is the breadth of the room?

A. 10m

B. 11 m

D. 12 m

Answer: B

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7. Riya wants to cover the floor of a hall 15 m long and 4 m wide with square tiles. If each square tile is of side 25 cm, find the number of tiles required to cover the floor of the room.
B. 625

C. 600

D. 960

Answer: D

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8. A rectangle has an area of $144cm^2$. If the length is 7 cm more than the breadth of the rectangle. Find the sides of the rectangle.

A. 12 cm

B. 9 cm

C. 16 cm

D. 15 cm

Answer: B

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9. A square of area $100cm^2$ has the same perimeter as of a regular pentagon. What is

the length of the side of the regular pentagon?

A. 6 cm

B. 8 cm

C. 7 cm

D. 5 cm

Answer: B



10. If the length and breadth of a rectangle are in the ratio 13: 8 and its perimeter is 420 m, then find the area of the rectangle.

- A. $12000m^2$
- $\mathsf{B.}\,9400m^2$
- $\mathsf{C}.\,1040m^2$
- D. Square

Answer: D



11. If the ratio between the length and the perimeter of a rectangular plot is 1:3, then the ratio between the length and breadth of the plot is 1:2 (b) 2:1 (c) 3:2 (d) 2:3

- A. 1:2
- B. 2:1
- C.3:2
- D. 2:3

Answer: B

12. A room is 14.4 m long and 6.4 m wide. Its floor is to be covered with rectangular tiles of size 24 cm by 16 cm. Find the total cost of tiles at Rs. 15 per tile.

A. Rs. 26000

B. Rs. 2400

C. Rs. 36000

D. Rs. 32000

Answer: C



13. The area of a rectangular field is $9600m^2$ and its length is 120 m. Find the cost of fencing the field at Rs. 6 per metre.

A. Rs. 2000

B. Rs. 2400

C. Rs. 2600

D. Rs. 2200

Answer: B



14. Find the cost of fencing a regular octagonal field with each side measuring 15 m at the rate of Rs. 34 per metre.

A. Rs. 2040

B. Rs. 1200

C. Rs. 4080

D. Rs. 3640

Answer: C



15. What is the area of the shaded part in the

figure below?



A. $16cm^2$

- $\mathsf{B.}\,24cm^2$
- $\mathsf{C.}\,32cm^2$
- $\mathsf{D.}\,48 cm^2$

Answer: C

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Exercise Match The Following

1. Match the following.

	List-I		List-II
(P)	Perimeter of the	1.	50 cm
	square with side 8 cm =		
(Q)	Perimeter of the	2.	32 cm
	regular pentagon with		
	side 10 cm =		
(R)	Area of a square whose	3.	22 cm ²
	side is 4 cm =		
(S)	Area of a rectangle	4.	16 cm ²
	with length 5.50 cm and		

breadth 4 cm =

A. P-2, Q-1, R-4, S-3

B. P-1, Q-4, R-3, S-2

C. P-2, Q-4, R-1, S-3

D. P-4, Q-3, R-2, S-1





2. Match the following.





A. P-1, Q-2, R-3, S-4

B. P-4, Q-3, R-2, S-1

C. P-4, Q-1, R-2, S-3

D. P-1, Q-3, R-4, S-2

Answer: C



Exercise Assertion Reason Type

1. Assertion : Breadth of the rectangle whose perimeter 160 cm and length 16 cm is 10 cm.

Reason : Perimeter of a rectangle = 2(length +

breadth)

A. If both assertion and reason are true and reason is the correct explanation of

assertion.

B. If both assertion and reason are true and reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion is false but reason is true.

Answer: D



2. Assertion : Perimeter of the regular hexagon with side 7 cm is 42 cm. Reason : Perimeter of a n-sided regular closed figure = $n \times$ [length of one side]

A. If both assertion and reason are true

and reason is the correct explanation of

assertion.

B. If both assertion and reason are true

and reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion is false but reason is true.

Answer: A

3. Assertion : Side of the square whose area is 225 sq. m is 15 m.

Reason : The standard unit of area is sq. units.

A. If both assertion and reason are true and reason is the correct explanation of assertion.

B. If both assertion and reason are true

and reason is not the correct

explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion is false but reason is true.

Answer: B

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4. Assertion : The length of rectangle of area $135cm^2$ and breadth 9 cm is 15 cm. Reason : Length of the rectangle = Area \times Breadth A. If both assertion and reason are true and reason is the correct explanation of assertion. B. If both assertion and reason are true and reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion is false but reason is true.

Answer: C

5. Assertion : If a square, a rectangle and triangle are all made from a string of length 30 cm, their perimeters will be same.
Reason Sides of square, rectangle and triangle are of same length.

A. If both assertion and reason are true

and reason is the correct explanation of

assertion.

B. If both assertion and reason are true

and reason is not the correct explanation of assertion.

C. If assertion is true but reason is false.

D. If assertion is false but reason is true.

Answer: C

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Exercise Comprehension Type

1. Area of a rectangle = L imes B

Perimeter of a rectangle = 2(L + B) where L and

B are the length and breadth of the rectangle respectively.

The area of a rectangle whose length 20 cm and breadth 15 cm is

A. $105 cm^2$

 ${\rm B.}\,300 cm^2$

 $\mathsf{C.}\,35cm^2$

D. $30cm^2$

Answer: B



respectively.

The breadth of a rectangle of length 4 m and area $8.4m^2$ is

A. 2.1 m

B. 1.2m

 $C. 4.2m^2$

 $\mathsf{D}.\,2.1m^2$

Answer: A

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3. Area of a rectangle = L imes B

Perimeter of a rectangle = 2(L + B) where L and

B are the length and breadth of the rectangle respectively.

Find the area of a rectangular park whose

perimeter is 300 and breadth is 50 m.

A. $500m^2$

 $\mathsf{B.}\,100m$

- $\mathsf{C.}\,5000m^2$
- $\mathsf{D.}\,1000m^2$

Answer: C



4. Two plots of land have same perimeter. One is a square of side 40 m while the other is a rectangle whose breadth is 15m.

What is the length of a rectangular plot ?

A. 65 cm

B. 160 m

C. 165 m

D. 65 m

Answer: D



5. Two plots of land have same perimeter. One is a square of side 40 m while the other is a rectangle whose breadth is 15m. What is the area of the square plot ?

A. $160m^2$

 $\mathsf{B}.\,1600m^2$

 $C.1650m^2$

D. $1720m^2$

Answer: B



6. Two plots of land have same perimeter. One is a square of side 40 m while the other is a rectangle whose breadth is 15m.
Which of the plots have greater area and by how much ?

A. Rectangle, $625m^2$

B. Square, $825m^2$

C. Square, $625m^2$

D. Rectangle, $975m^2$

Answer: C

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Exercise Subjective Problems Very Short Answer Type

1. Convert $563mm^2$ into cm^2 .

2. What is the area of a square with each side

16 cm ?



3. Find the perimeter of a regular hexagon

with one side measuring 0.7 m.

4. Find the perimeter of the given figure.



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5. What is the area of rectangle ABCD?





7. What is the distance travelled in taking five

rounds of a regular octagon of side 6 cm?

8. Find the side of a square whose perimeter is

80 cm ?



9. Find the perimeter of an isosceles triangle with equal sides 5 cm each and unequal side 7 cm.

10. Find the length of a rectangle whose area

is $300cm^2$ and the breadth is 15 cm.

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Exercise Subjective Problems Short Answer Type

1. Find the area of the following figure by counting squares.



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2. A tile measures $10cm \times 10cm$. How many such tiles are required to cover a wall $5m \times 2.5m$?


3. Find the cost of tiling the floor of a room at the rate of Rs. 8 per m^2 , where the room measure 250 m long and 100 m broad.



4. What happens to the area of a square when

its side is increased by 4 times ?

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5. What is the area of a square, if its perimeter

is 44 cm?



6. The area of a square of side 16 cm is the same as that of a rectangle of length 64 cm.

What is the breadth of the rectangle?

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7. What is the area of a rectangle (in cm^2)

whose sides are 5.4 cm and 1m?



8. The perimeter of a rectangle having breadth

10 cm is 128 cm, what is its area ?

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9. The perimeter of an equilateral triangle is 168 m. What is the length of the side of the



10. The length of a rectangular plot of land is twice its breadth. If the perimeter of the plot be 420 m, find its area.

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Exercise Subjective Problems Long Answer Type

1. Find the cost of cultivating a rectangular field 34 m long and 18 m wide at Rs. 4.50 per sq. metre. Also, find the cost of fencing the field at Rs. 2.25 per metre.

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2. Find the perimeter of the given figure (not

drawn to scale).





3. The length and breadth of play ground are 5m 20 cm and 3m 80 cm respectively. Find the area of the playground. Also find the cost of levelling it at Rs. 6.5 per square metre.



4. A rope of length 60 cm is cut into two pieces. One piece is used to form a rectangle

of length 12 cm and width 6 cm. The other piece is bent into a regular hexagon. What is the length of each side of the hexagon ?

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5. The given shape is divided into a square and two rectangles.

What is the area of square X ?





6. The given shape is divided into a square and two rectangles.

What is the length of rectangle Y? What is the

area of rectangle Y?



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7. The given shape is divided into a square and

two rectangles.

What is the area of rectangle Z?



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8. The given shape is divided into a square and

two rectangles.

What is the area of the given shape ?



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Exercise Subjective Problems Integre Numerical Value Type

1. An athlete runs a total distance of 4800 m

around a square field of side 200 m. How many

rounds of the field did the athlete take ?



2. An area of rectangular floor with dimensions 90 cm and 40 cm is to be paved with square tiles of side 20 cm. How many such tiles will be required ?



3. Find the perimeter (in m) of the given figure.



4. What is the side (in cm) of a square whose

area is $25cm^2$?

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5. What is the length of side (in cm), if perimeter of a regular octagon is 120 cm ?



6. If the length of a rectangular plot is 4 cm and its perimeter is 14 cm. Find the breadth (in

cm) of the rectangular plot.



7. What is the area of a square (in cm^2), if its

perimeter is 32 cm?

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8. What is the length of a rectangle (in m), if its area is $2m^2$ and breadth is $\frac{1}{2}m$?

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9. By how much is the area of rectangle (in cm^2) of sides 2 cm and 1.5 cm greater than the area of a square of side 1cm ?



10. What is side (in cm) of a square box whose

perimeter is 68 cm?

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Olympiad Hots Corner

1. Find the area of the following figure (not

drawn to scale) by splitting into rectangles.





2. The diagram below shows a framed picture.

Find the area of the picture.



A. $48cm^2$

 $\mathsf{B.}\, 39 cm^2$

 $C. 92 cm^2$

 $\mathsf{D.}\,120 cm^2$

Answer: A



3. Priya used four similar rectangular carpets and a square carpet for the flooring in her study room as shown below.



If it cost her Rs. 6 per square metre for the rectangular carpets and Rs. 8 per square

metre for the square carpet, how much did

she pay in all ?

A. Rs. 512

B. Rs. 600

C. Rs. 417

D. Rs. 416

Answer: D



4. The given rectangle is made up of 12 squares. Find the area of the shaded region.



A. $60 cm^2$

- $\mathsf{B.}\,48cm^2$
- $\mathsf{C}.\,96cm^2$
- $\mathsf{D.}\,24cm^2$

Answer: C



5. Study the given statements carefully and select the correct option.Statement - I : If the side of a square is halved, then the new perimeter is two times the

original perimeter.

Statement - II : If the perimeter of a regular pentagon is 35 cm, then the length of its each side is 5 cm.

A. Both Statement-I and Statement-II are

true.

B. Both Statement-I and Statement-II are

false

C. Statement - I is true but Statement-II is

false.

D. Statement-I is false but Statement-II is

true.

Answer: B

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6. If ABCD and PQRS are two identical squares,

then find the area of the shaded region.



A. $180 cm^2$

 $\mathsf{B}.\,170 cm^2$

C. $194 cm^2$

 $\mathsf{D}.\,173 cm^2$

Answer: C



7. In Fig. 6.15 all triangles are equilateral and

AB =8 units. Other triangles have been formed

by taking the mid points of the sides. What is



A. 92 units

B. 93 units

C. 91 units

D. None of these

Answer: B



8. The given figure is made up of one big square of side 5 cm and 3 identical small squares of side x cm each. Find the perimeter

of the figure in terms of x.



A.
$$(20+6x)cm$$

- $\mathsf{B.}\,(20+5x)cm$
- C. (18+7x)cm
- D. (20+9x)cm

Answer: A



9. Manju runs around a rectangular park of length 35 m and breath 20 m. Meenu runs around a square park of side 30 m. Who covers less distance and by how much if Meenu takes 4 rounds and Manju takes 3 rounds completely ?

A. Meenu, 150 m

B. Manju, 120 m

C. Manju, 150m

D. Meenu, 120 m

Answer: C

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10. Find the number of envelopes that can be made out of a sheet of paper 384 cm by 168 cm, if each envelope requires a piece of paper of size 16 cm by 12 cm.

A. 340

B. 344

C. 336

D. 342

Answer: C



11. Select the incorrect match, if figures (not drawn to scale) are made up of identical squares and identical equilateral triangles of

side 3 cm each.



12. In the given figure (not drawn to scale), $\Delta ABC, \Delta EFG, \Delta KIJ$ and ΔNMO are 4

different equilateral triangles. Find the perimeter of the figure, if side of square PDHL is 8 cm, AC = 4cm, EG = 2 cm, KI = 3 cm and MO = 2 cm.



B. 64 cm

C. 43 cm

D. 52 cm

Answer: C

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13. Find the area of the given figure.



- A. 25.5 sq. cm
- B. 23.5 sq. cm
- C. 25 sq. cm
- D. 24 sq. cm

Answer: A



14. Five square flower beds each of sides 1.2 m are dug on a piece of land 4.8 m long and 4.2 m wide. What is the area of the remaining part of the land ?

A. 12.69 sq. m

B. 12.96 sq. m

C. 11.96 sq. m
D. 144 sq. m

Answer: B

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15. Find the perimeter of the given figure.



A. 17 cm

B. 68 cm

C. 43 cm

D. 96 cm

Answer: B

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16. The cost of making a fence around a square field is Rs. 392 at the rate of Rs. 14 per metre. What is the length of each side of the field ?

A. 7m

B. 8m

C. 8 cm

D. 7 cm

Answer: A



17. PQRS is a rectangle. When the length and breadth of the rectangle increases, the rectangle is enlarged to VWRT and the area of

the rectangle is enlarged by $226cm^2$. If the length of rectangle PQRS is twice its breadth. Find

(i) Perimeter of rectangle PQRS.

(ii) Area of rectangle VWRT.



A. (i) - 105 cm, (ii) $388.5 cm^2$

B. (i) - 105 cm, (ii) - $838.5cm^2$

C. (i) - 108 cm, (ii) - $838.5cm^2$

D. (i) - 108 cm, (ii) - $388.5cm^2$

Answer: B



18. ABCD and PQRS are two squares of same

dimensions. Find the area of shaded part.



A. 49 cm

${\rm B.}\,49 cm^2$

$\mathsf{C}.\,196cm^2$

D. 196 cm

Answer: C



19. Figure P is made up of six identical squares. Two squares were removed from figure P to form figure Q. The perimeter of figure P is 240 cm. What is the perimeter of figure Q ?





A. 220 cm

B. 180 cm

C. 200 cm

D. 160 cm

Answer: C

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20. The given figure is made up of 10 squares

of the same size. The perimeter of the figure is

80 cm. Find the area of the figure.



- A. $250cm^2$
- $\mathsf{B}.\,150 cm^2$
- $\mathsf{C.}\,280cm^2$
- $\mathsf{D.}\,190cm^2$



