

MATHS

BOOKS - BETOPPERS

MENSURATION

Formative Worksheet

1. Sandra wants to get her kitchen floor tiled with square tiles such that each tile has a side of 2 ft. The kitchen is of 18 ft length and 16 ft

width and each square tile has an area of 4 ft^2

. What is the area of the kitchen floor?

A. 268
$$ft^2$$

B. 278
$$ft^2$$

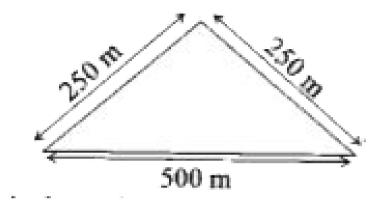
C. 288
$$ft^2$$

D. 298
$$ft^2$$

Answer:



2. Sherman has a triangular farm whose dimensions are shown in the figure.



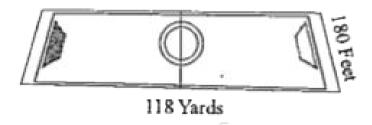
What is the perimeter of the farm?

- A. 250 m
- B. 500 m
- C. 1000 m
- D. 2000 m



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3. A rectangular hockey field has length 118 yards and width 180 feet. What is the perimeter of the hockey field?



A. 356 m

- B. 356 feet
- C. 356 yards
- D. 356 miles



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4. The area of a rectangular playground is 300

 m^2 . The length of the playground is 2,000 cm.

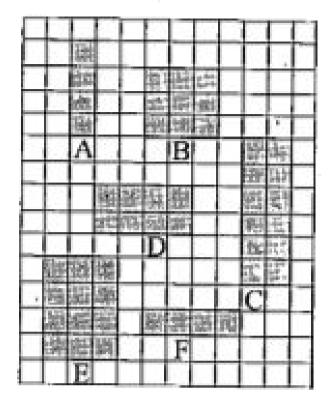
The width of the playground is

- A. 10 m
- B. 15 m
- C. 20 m
- D. 25 m



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5. Zachary draws six different rectangles on a centimeter grid paper.



The area of which two rectangles is the same?

A. C & D

B. B & D

C. B & E

D. C & E

Answer:



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6. The area of a rectangular fields is 225 m^2 .

The width of the field is 400 cm. What is the length of the field in meters?

A. 46.25

B. 56.25

C. 66.25

D. 76.25

Answer:



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7. The maximum area of a rectangle with integral lengths and having a perimeter 36 m is

A. 80 m^2

B. 81 m^2

C. 90 m^2

D. 91 m^2

Answer:



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8. For a rectangle with integral lengths of sides and 196 m^2 area, the minimum perimeter is obtained by taking the length of the rectangle as

- A. 4m
- B. 7m
- C. 14m
- D. 28m



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9. In order to get the minimum perimeter of a rectangle of 225 m^2 area and having sides of

integral lengths, one of the sides of the rectangle should be of length

- A. 3 m
- B. 5 m
- C. 11 m
- D. 15 m

Answer:



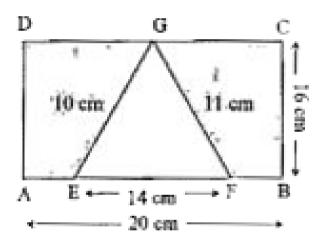
10. The minimum perimeter of a rectangle of area 324 $\,m^2$ and having sides of integral lengths is

- A. 36 m
- B. 72 m
- C. 120 m
- D. 170 m

Answer:



11. The given figure shows a rectangle ABCD such that AEFG has been cut out of the rectangle. The remaining portion of the rectangle has been shaded.



The perimeter of the shaded region is

A. 52 cm

B. 59 cm

C. 72 cm

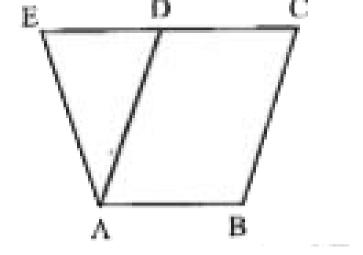
D. 79 cm

Answer:



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12. The given figure shows an equilateral triangle AED which shares a side AD with parallelogram ABCD. The lengths of adjacent sides AB and BC are 50 cm and 35 cm respectively.



The perimeter of the figure ABCE is (in cms)

A. 165

B. 180

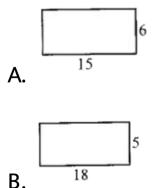
C. 205

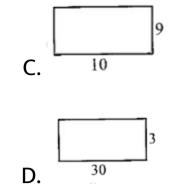
D. 240

Answer:

13. The area of a rectangle with length I and width w is 90 square units.

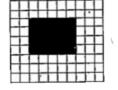
Which of the rectangles has the minimum perimeter and also satisfies the given condition?







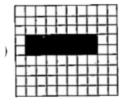
14. If the length of the side of each small square in the given grids is 1 unit, then which of the following figures does not show a rectangle of perimeter 18 units?



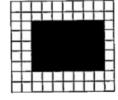
A



В



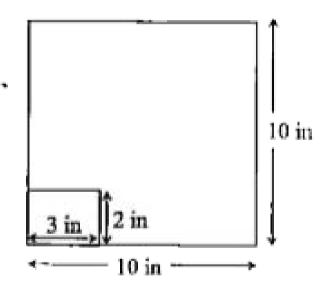
C



Answer:



15. The given figure shows a square piece of carboard of side 10 inches. A rectangular piece of dimensions 3 inches \times 2 inches is cut from the cardboard as shown in the figure.



Area of the remaining portion of the cardboard is

A. 90 inch^2

- B. 92 inch^2
- C. 94 inch^2
- D. 96 inch^2



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16. If the perimeter of a 180 m wide rectangular field is 840 m, then the area of the shield is

- A. 42,200 m^2
- B. 43,200 m^2
- C. 44,200 m^2
- D. 45,200 m^2



17. Sue measured the perimeter of the rectangular top of a coffee table which came out to be 12 ft. The length of the top of the

coffee table is 4 ft.

What is the area of the top of the coffee table?

A. 6
$$ft^2$$

B. 8
$$ft^2$$

C. 10
$$ft^2$$

D. 12 ft^2

Answer:



18. The base of a parallelogram is 3 cm more than twice the height of the parallelogram.If height of the parallelogram is 4 cm, then the area of the paralleloram is

A. 42
$$cm^2$$

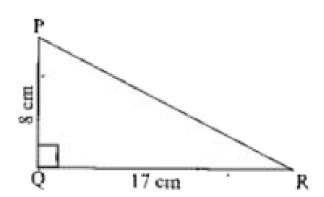
B. 44
$$cm^2$$

C. 56
$$cm^2$$

D. 58
$$cm^2$$

Answer:





What is the area of the triangle PQR shown in the given figure?

A. 66 cm^2

19.

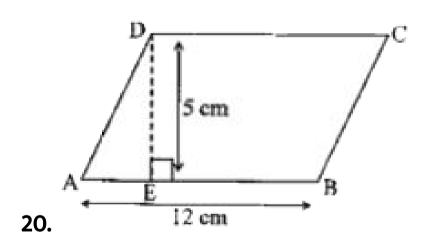
B. 68 cm^2

 $\mathsf{C.72}\ cm^2$

D. 74 cm^2



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What is the area of the parallelogram ABCD as shown in the given figure?

A. 48 cm^2

- B. 60 cm^2
- C. 70 cm^2
- D. 84 cm^2

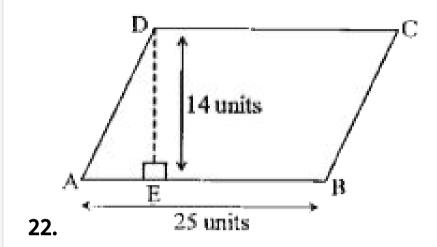


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21. The height of a triangle is 2 cm less than twice its base. If the base of the triangle is 6 cm, then what is the area of the triangle?

- A. 15 cm^2
- B. 20 cm^2
- C. 25 cm^2
- D. 30 cm^2





What is the area of the parallelogram shown in the given triangle?

A. 200 $unit^2$

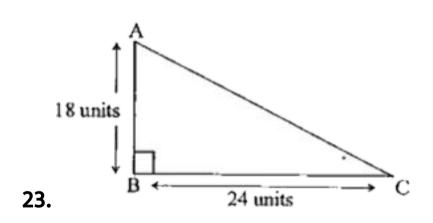
B. 250 $unit^2$

C. 300 $unit^2$

D. 350 $unit^2$



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What is the area of the triangle shown in the given triangle?

A. 200 $unit^2$

B. 208 $unit^2$

C. 216 $unit^2$

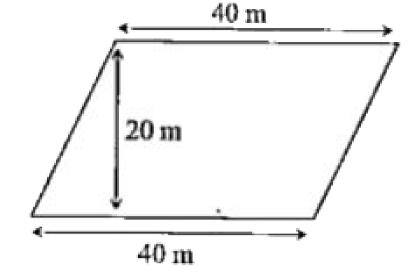
D. 224 $unit^2$

Answer:



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24. The given figure shows a parallelogram of 20 m height. The base of the parallelogram is 40 m long.



What is the area of the parallelogram?

A. 200
$$m^2$$

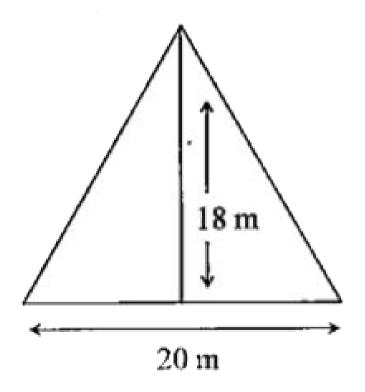
B. 400
$$m^2$$

$$\mathsf{C.\,600}\ m^2$$

D. 800
$$m^2$$

Answer:

25. The given figure shows a triangle of 18 m height. The base of the triangle is 20 m long.



What is the area of the triangle?

- A. 180 m^2
- B. 190 m^2
- C. 200 m^2
- D. 210 m^2



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26. The width of a rectangular field, whose length is 35 m and perimeter is 130 m, is

- A. 25 m
- B. 30 m
- C. 35 m
- D. 40 m



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27. What is the area of a rectangular field, which has a perimeter of 240 ft and a length of 80 ft?

A. 3,200 ft^2

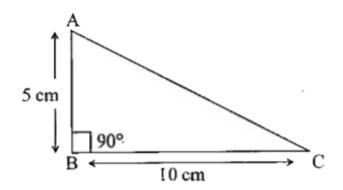
B. 3,400 ft^2

C. 3,600 ft^2

D. 3,800 ft^2

Answer:





28.

What is the area of ΔABC , as shown in the given figure?

A. 15 cm^2

B. 25 cm^2

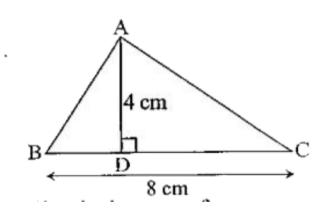
 $\mathsf{C.40}\ cm^2$

D. 50 cm^2



29.

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What is the area of ΔABC , as shown in the given figure?

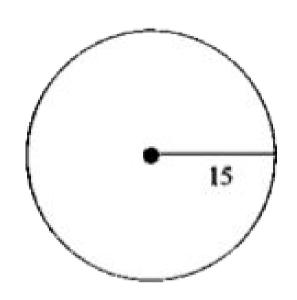
A. 12 cm^2

- B. 16 cm^2
- $\mathsf{C.28}\ cm^2$
- D. 32 cm^2



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30. The radius of a car wheels is 15 units



What is the area of the wheel?

A. 125
$$\pi$$
 (units)²

B. 225
$$\pi$$
 (units)²

C.
$$325\pi$$
 (units)²

D. 425
$$\pi$$
 (units)²



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31. What is the volume of a cuboid of dimensions 2.8 cm \times 1.6 cm \times 4 cm?

A. 17.92 cm^3

B. 22.08 cm^3

C. 35.84 cm^3

D. 44.16 cm^3



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32. A metallic cube is melted in the form of a cyclinder in such a way that its radius is half the length of edge of the cube. What fraction of the length of the edge of the cube is the height of cylinder formed?

A.
$$\frac{7}{44}$$

B.
$$\frac{3}{22}$$

c.
$$\frac{14}{11}$$

D.
$$\frac{7}{11}$$



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33. In a cubical box of side 36 cm, exactly 216 small identical cubes can be placed. What would be the length of the side of each small cube?

- A. 4 cm
- B. 6 cm
- C. 12 cm
- D. 14 cm



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34. If the volumes of two cubes are in the ratio 125: 343, then what is the ratio of the lengths

of their edges?

- A. 5:7
- B. 7:9
- C. 25:49
- D.49:81



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35. What is the length of the edge of the cube whose volume is 2744 cm^3 ?

- A. 14 cm
- B. 12 cm
- C. 7 cm
- D. 6 cm



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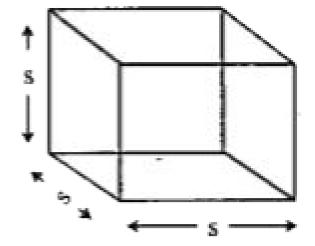
36. What is the total surface area of a cube whose volume is 1728 cm^3 ?

- A. 144 cm^2
 - B. 216 cm^2
 - C. 436 cm^2
 - D. 864 cm^2



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37. The given figure shows a cube whose edges are equal. Its length, width and height are S units.



The formula for volume of the cube is given by



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Conceptive Worksheet

1. The length and width of a rectangle with integral sides and perimeter as 18 units, such

that it has the maximum possible area, are respectively

A. 8 units and 1 unit

B. 7 units and 2 units

C. 5 units and 4 units

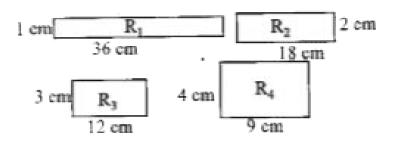
D. 6 units and 3 units

Answer:



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2. The given figure shows four rectangles $R_1, R_2, R_3, \text{ and } R_4$, each of which has an area of 36 cm^2 .



The perimeter of which of the given rectangles is minimum?

A. R_1

B. R_2

 $\mathsf{C}.\,R_3$

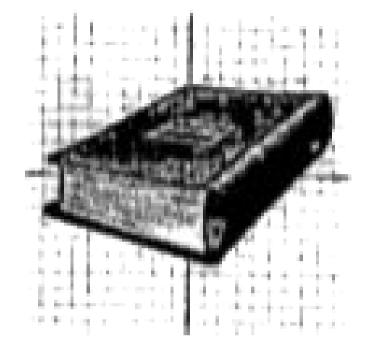
D. R_4

Answer:



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3. Veronica places her mathematics book on a two centimeter grid paper. The total area of the book is 200 cm^2 .



How many squares does the book cover on the grid paper?

A. 25

B. 50

C. 100

D. 200

Answer:



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4. The sides of a triangular pizza slice are equal to 20 cm. The area of the pizza slice is $173 \ cm^2$. What is the perimeter of the pizza slice?

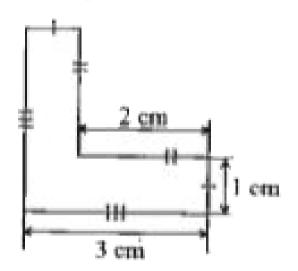
A. 30 cm

- B. 60 cm
- C. 80 cm
- D. 120 cm



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5. Jane draws the alphabet L as shown in the figure.



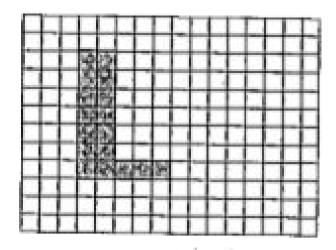
What is the perimeter of the alphabet L as drawn by Jane?

- A. 10 cm
- B. 12 cm
- C. 14 cm
- D. 16 cm



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6. The given figure shows a geometrical construction on a grid comprising squares of area 1 square unit each.



The area of the geometric figure is

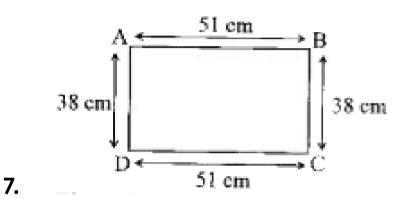
A. 15 square units

B. 16 square units

C. 17 square units

D. 18 square units

Answer:



The estimated perimeter of the given figure is

A. 120 cm

B. 140 cm

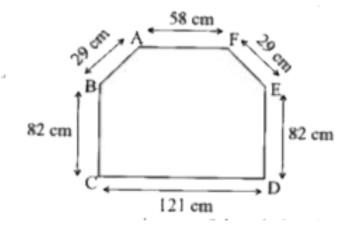
C. 160 cm

D. 180 cm



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8. The given figure shows a window and its dimensions.

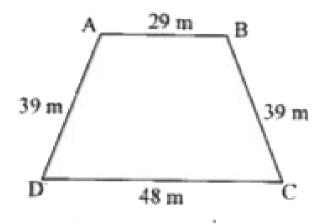


The estimated perimeter of the window is

- A. 200 cm
- B. 250 cm
- C. 400 cm
- D. 450 cm



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The perimeter of the given figure is

A. 140 m

9.

B. 150 m

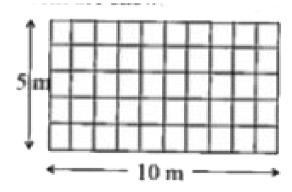
C. 155 m

D. 165 m



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10. Aubrey wants to buy tiles for the floor of her drawing room. The dimensions of the floor of her drawing room are shown in the figure.



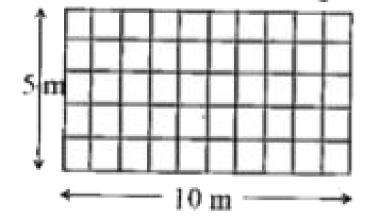
The perimeter of the floor is

- A. 10 m
- B. 20 m
- C. 30 m
- D. 40 m



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11. Aubrey wants to buy tiles for the floor of her drawing room. The dimensions of the floor of her drawing room are shown in the figure.



What is the total area of the floor?

A. 40
$$m^2$$

B. 50
$$m^2$$

C. 60
$$m^2$$

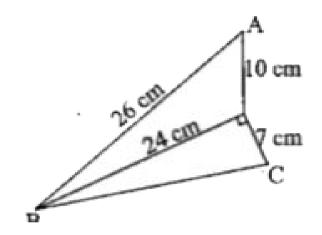
D. 70
$$m^2$$

Answer:



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12. The given figure shows a quadrilateral ABCD.



What is the area of quadrilateral ABCD?

A. 84 cm^2

B. 120 cm^2

C. 180 cm^2

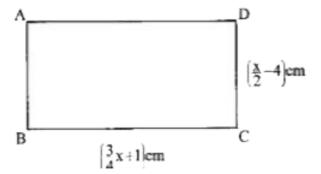
D. 204 cm^2

Answer:



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13. The given figure shows a rectangle ABCD.



If perimeter of rectangle ABCD is 54 cm, then what is its area?

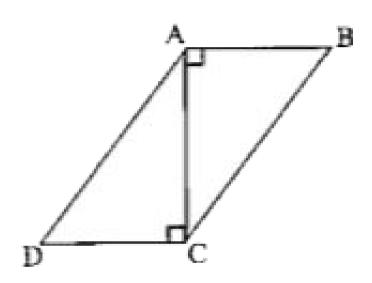
- A. 140 sq cm
- B. 152 sq cm
- C. 162 sq cm
- D. 170 sq cm

Answer:



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14. The given figure shows a quadrilateral ABCD such that AB = CD = 4 cm. The length of AC is 6 cm.



What is the area of the quadrilateral ABCD?

A. 10 cm^2

B. 12 cm^2

 $\mathsf{C.\,20}\ cm^2$

D. 24 cm^2

Answer:



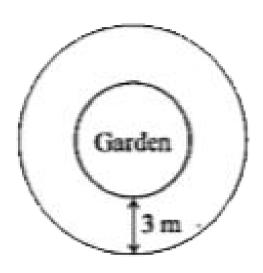
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15. The ratio of the circumference of two circles is 7:11. What is the ratio of the areas of the two circles?



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16. A circular garden is surrounded by 3 m wide path. The circumference of the garden excluding the path is 88 m.



What is the area of the path surrounding the garden?

A. 143.28 m^2

B. 292.28 m^2

C. 706.28 m^2

D. 908.28 m^2

Answer:



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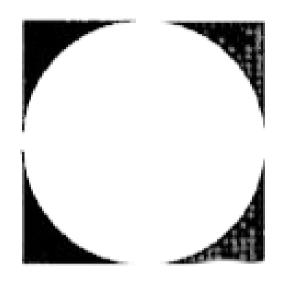
17. How many squares of side 5 cm can be placed over a square of side 30 cm such that no two smaller squares overlap?

- A. 24
- B. 30
- C. 36
- D. 40



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18. The given figure shows a circle inscribed in a square of side 14 cm.



What is the area of the shaded region?

A. 40 cm^2

B. 42 cm^2

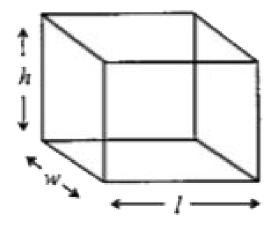
 $\mathsf{C.45}\ cm^2$

D. 49 cm^2



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19. The adjacent figure shows a rectangular prism of length I units, width w units and height h units.



The formula for the total surface area of the rectangular prism is

A.
$$2lw + wh + hl$$

$$\mathsf{B.}\, lw + 2(wh + hl)$$

$$\mathsf{C.}\,2(lw+wh+hl)$$

$$\mathsf{D}.\, lw + wh + hl$$

Answer:



20. If the sides of a cube are doubled, then its volume becomes

- A. One-fourth of the initial volume
- B. One-half of the initial volume
- C. Four times the initial volume
- D. Eight times the initial volume

Answer:



21. David's room is 8 m long, 7 m wide and 9 m high. He wants to paint his room red. The cost of painting 1 m^2 area is Rs. 2.50.

The cost of painting the room is

A. Rs.815

B. Rs.825

C. Rs.835

D. Rs.945

Answer:



22. If the length of the edge of a cube is 3.2 cm, then the total surface area of the cube is

- A. 61.44 cm
- B. 61.44 cm^2
- C. 61.44 cm^3
- D. 61.44 cm^4

Answer:



23. The volume of a rectangular prism

$$10dm imes 4dm imes 2m$$
 is

- A. 800 dm
- B. $800dm^2$
- C. $800dm^3$
- D. $800dm^4$

Answer:



24. A rectangular block of silver measures 13 cm \times 10 cm \times 8 cm. It is given that 1 cm^3 of silver weighs 10.5 g. The weight of the silver block, in kg, is

- A. 5.46
- B. 10.92
- C. 54.64
- D. 86.42

Answer:



25. A cuboidal tank is 7 m long, 3 m wide and 5 m high. Water is stored in the tank. The maximum quantity of water that can be stored in the tank is

A. 63 m^3

B. 75 m^3

C. 105 m^3

D. 147 m^3

Answer:



Summative Worksheet

1. The perimeter of a rectangular plot is 100m and its three sides are 35.3m, 25.2m, 18.5m, then the length of a fourth side of a rectangular plot?

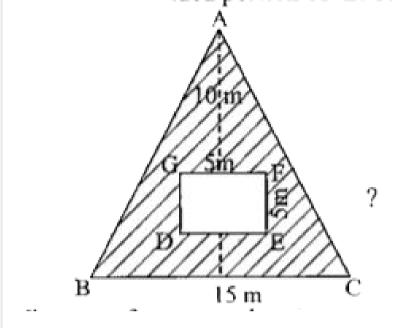


2. The side length of a regular decagon is 13m, then the perimeter of a regular decagon?



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3. Area of the shaded portion of the following figure





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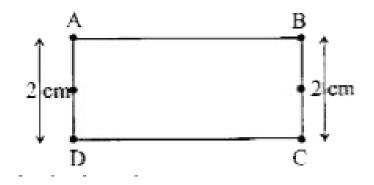
4. The area of a rhombus is $132 \ cm^2$. If length of one of its diagonals is 11 cm, then what is the length of the other diagonal?

- A. 12 cm
- B. 14 cm
- C. 22 cm
- D. 24 cm



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5. Theodore uses a non-stretchable, close string of length 10 cm to constuct a rectangle on a geoboard as shown in the figure.



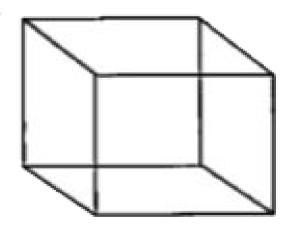
What is the length of the sides AB and DC?

- A. 1 cm
- B. 2 cm
- C. 3 cm
- D. 4 cm

Answer:



6. Little Johny got a cube as a birthday gift. All the six faces of the cube are of different colours and each side of the cube is of 5 cm length. What is the capacity of the cube?



A. 0.000125 m^3

B. 0.00125 m^3

C. 0.0125 m^3

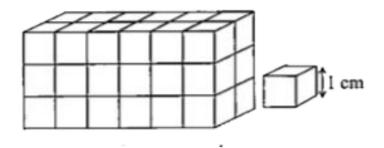
D. 0.125 m^3

Answer:



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7. A rectangular prism is made by joining some cubes as shown in the given figure. The volume of each small cube is $1 \ cm^3$.



The volume of a rectangular prism is

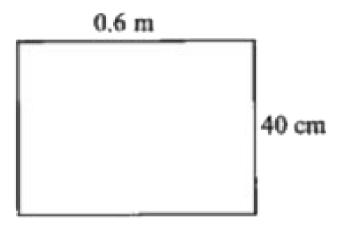
- A. 32 cm^3
- B. 36 cm^3
- C. 42 cm^3
- D. 46 cm^3

Answer:



Hots Worksheet

1. The figure shows a rectangle 40 cm wide and0.6 m long.



What will be the area of rectangle in sq. cm?

A. 24

B. 240

C. 2400

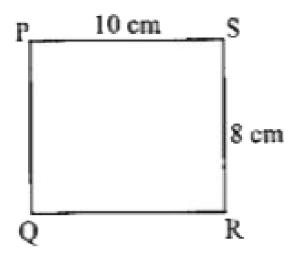
D. 2800

Answer:



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2. The figure shows rectangle PQRS of 10 cm length and 8 cm width.



What is the perimeter of the given rectangle?

A. 36 cm

B. 38 cm

C. 40 cm

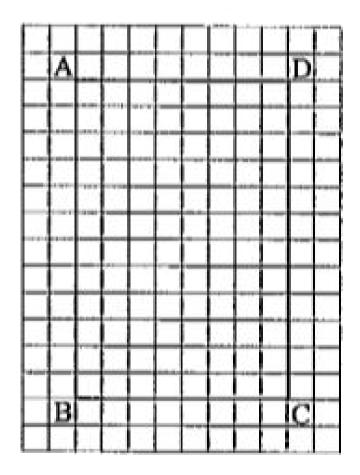
D. 42 cm



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3. The given figure shows a rectangle ABCD of 12 cm length and 8 cm width, drawn on grid paper. Each square grid on the gird paper has a side of 1 cm and an area of 1 cm^2 . The area of

rectangle ABCD is



A. 92 cm^2

B. 94 cm^2

C. 96 cm^2

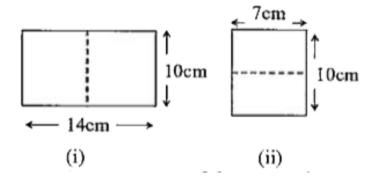
D. 98 cm^2

Answer:



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4. A rectangle sheet of paper is 10 cm long and 14 cm wide. It is folded once as shown in the figure (i) and then folded again as shown in the figure (ii).



What will be the area of the rectangle formed after the second fold?

A. 55
$$cm^2$$

B. 45
$$cm^2$$

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

D. 25
$$cm^2$$

Answer:

5. The perimeter of a 100 cm long and 30 cm wide towel will be

A. 270 cm

B. 260 cm

C. 250 cm

D. 240 cm

Answer:



6. What is the area of a rectangle, which is 5 cm long and 10 cm wide?

A. 20
$$cm^2$$

B.
$$30~cm^2$$

C. 40
$$cm^2$$

D. 50
$$cm^2$$

Answer:



7. What is the area of the circle whose circumference is 110 cm?

A. 468
$$cm^2$$

B. 625
$$cm^2$$

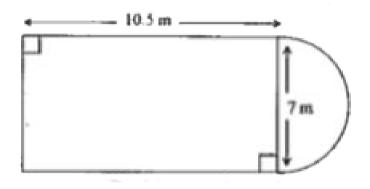
C. 861.4
$$cm^2$$

D. 962.5
$$cm^2$$

Answer:



8. Smita has a garden which is in the shape of the given figure. What is the perimeter of the garden?



A. 27 m

B. 39 m

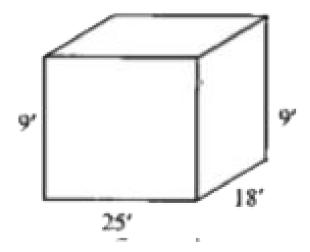
C. 50 m

D. 64 m



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9. Use the following information to answer the next question.



The volume of the figure is

A. 2,050 ft^3

B. 3,625 ft^3

C. 4,050 ft^3

D. 5,625 ft^3

Answer:



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lit Jee Worksheet

1. If the perimeter of a rectangle is 1024m and its length is 250m then its breadth is ?

- A. 40.96 m
- B. 262m
- C. 774m
- D. 256000m

Answer:



2. If the side of a square is 22.5cm then its perimeter is ?

A. 0.90m

B. 5.625m

C. 90m

D. 506.25m

Answer:



3. If the regular octagon having side length is

14.5m, then its perimeter is?

- A. 1.8125m
- B. 22.5m
- C. 116m
- D. 130.5

Answer:



4. The perimeter of the parallelogram, whose adjacent sides 8.7m and 5.3m is ?

A. 14m

B. 44.52m

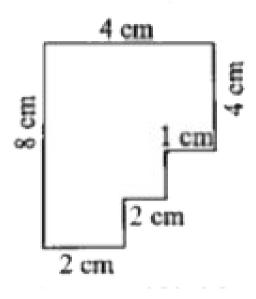
C. 1.64m

D. 28m

Answer:



5. Perimeter of the following closed figure is?



- A. 24cm
- B. 21cm
- C. 23cm
- D. 25cm



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6. If the area of a rectangular field is 562.5 sq.m and it's length is 22.5m, then the breadth is ?

- A. 25m
- B. 125656.25m
- C. 258.75m
- D. 540m



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7. The ratio of the length and breadth of a rectangular field is 5:6, if the length is 80m then the area is ?

A. 90 Sq.m

B. 340 Sq.m

C. 7680 Sq.m

D. 192000 Sq.m



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8. If the area of a square is 1024 Sq.m then length of the square is ?

A. 1048576 m

B. 32 m

C. 256 m

D. 4096 m



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9. Which measurement of a circle will give the length of its diameter?

A.
$$2 \times Radius$$

B.
$$\frac{2 \times \text{Area}}{\text{Radius}}$$

C.
$$\frac{2 \times \text{Circumference}}{2\pi}$$

D.
$$\frac{2 \times \text{Area}}{\text{circumference}}$$



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10. Krishna made a drawing of his rectangular kitchen for art class. The length of the drawing was 8 cm, and the width of the drawing was 2 cm less than the length. Find the perimeter of the drawing.

A. 28 m

B. 0.28 m

C. 28 cm

$$\mathsf{D.}\,2 imes(8+6)cm$$

Answer:



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11. Each side of a square park measures 95 m.

The distance covered by a person going round the park 6 times is:

A. 570 m

B. 2,280 m

 $\mathsf{C.}\,6 imes4 imes95m$

D. 6 imes 95 m

Answer:



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12. Which of the following statements is correct?

$$=\frac{\text{circumference} \times \text{Radius}}{2}$$

B. Area of triangle= $rac{1}{2} imes Base imes \;$ Perimeter

C. Area of square

$$=rac{\left(ext{perimeter of square}
ight)^2}{16}$$

D. Area of rectangle = $2 \times Area$ of Square

Answer:



13. Find the side of the square whose perimeter is 20 m.



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14. 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?



15. The area of a rectangular garden 50 m long is 300 sq m. Find the width of the garden.



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

What is its area in square metres?

