MATHS

BOOKS - NCERT MATHS (ENGLISH)

HERON'S FORMULA

Multiple Choice Questions Mcqs

1. An isosceles right triangle has area 8 cm^2. The length of its hypotenuse is

A. $\sqrt{32}$ cm

B. $\sqrt{16}$ cm

C. $\sqrt{48}$ cm

D. $\sqrt{24}$

Answer: A

2. The perimeter of an equilateral triangle is 60 m. The area is

A. $10\sqrt{3}\quad m^2$

B. $15\sqrt{3}\quad m^2$

C. $20\sqrt{3}\quad m^2$

D. $100\sqrt{3}\quad m^2$

Answer: D

3. The sides of a triangle are 56 cm, 60 cm and 52 cm long. Then, the area of the triangle is

A. $1322\ cm^2$

B. $1311\ cm^2$

C. 1344 cm^2

D. 1392 cm^2

Answer: C

4. The area of an equilateral triangle with side $2\sqrt{3}$ cm is

A. 5.196 cm^2

B. 0.866 cm^2

C. 3.496 cm^2

D. 1.732 cm^2

Answer: A

5. The length of each side of an equilateral triangle having an area of 9sqrt3 cm^(2) is

   A. 8 cm

   B. 36 cm

   C. 4 cm

   D. 6 cm

Answer: D

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6. If the area of an equilateral triangle is $16\sqrt{3}cm^2$, then the perimeter of the triangle is

   A. 48 cm

   B. 24 cm

   C. 12 cm

D. 36 cm

Answer: B

7. The sides of a triangle are $35\ cm$, $54\ cm$ and $61\ cm$, respectively. The length of its longest altitude

A. $16\sqrt{5}$ cm

B. $10\sqrt{5}$ cm

C. $24\sqrt{5}$ cm

D. 28 cm

Answer: C

8. The area of an isosceles triangle having base $2 \ cm$ and the length of one of the equal sides $4 \ cm$ is

A. $\sqrt{15} cm^2$

B. $\sqrt{\dfrac{15}{2}} cm^2$

C. $2\sqrt{15} cm^2$

D. $4\sqrt{15} cm^2$

Answer: A

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9. The edges of a triangular board are $6 cm, 8 cm$ and $10 cm$ .The cost of painting it at the rate of $9 paise per " cm^2$ is "

A. rupee 2.00

B. rupee 2.16

C. rupee 2.48

D. rupee 3.00

Answer: B

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1. The area of a triangle with base 4 cm and height 6 cm is 24 cm^2.

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2. The area of $\triangle ABC$ is 8 cm^2 in which AB=AC=4 cm and $\angle A = 90°$.

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3. Write True or False and justify your answer:

The area of the isosceles triangle is $\frac{5}{4}\sqrt{11}$ cm^2 if the perimeter is 11 cm

and the base is $5\ cm.$

4. The area of the equilateral triangle is $20\sqrt{3}cm^2$ whose each side is 8 cm.

5. If the side of a rhombus is 10 cm and one diagonal is 16 cm, then area of the rhombus is 96 cm^2.

6. The base and the corresponding altitude of a parallelogram are 10 cm and 3.5 cm, respectively. The area of the parallelogram is 30 cm^2.

7. Write True or False and justify your answer:

The area of regular hexagon of side a is the sum of the areas of the five equilateral triangles with side a.

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8. Write True or False and justify your answer:

The cost of levelling the ground in the form of a triangle having the sides $51\ m$, $37\ m$ and $20\ m$ at the rate of $Rs\ 3$ per m^2 is $Rs\ 918$.

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9. Write True or False and justify your answer:

In a triangle, the sides are given as $11\ cm$, $12\ cm$ and $13\ cm$. The length of the altitude is $10.25\ cm$ corresponding to the side having 12 cm.

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1. Find the cost of laying grass in a triangular field of sides $50\ m$, $65\ m$ and $65\ m$ at the rate of rupee 7 per m^2.

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2. The triangular side walls of a flyover have been used for advertisements. The sides of the walls are $13\ m$, $14\ m$ and $15\ m$. The advertisements yield an earning of rupee 2000 per m^2 a year. A company hired one of its walls for 6 months. How much rent did it pay?
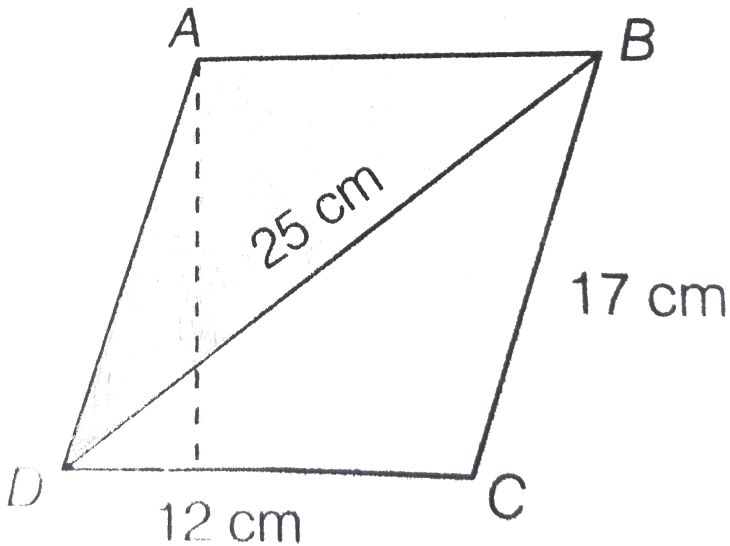
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3. From a point in the interior of an equilateral triangle, perpendiculars are drawn on the three sides. The lengths of the perpendiculars are 14 cm, $10\ cm$ and $6\ cm$. Find the area of the triangle.

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4. The perimeter of an isosceles triangle is $32\ cm$. The ratio of the equal side to its base is $3 : 2$. Find the area of the triangle.
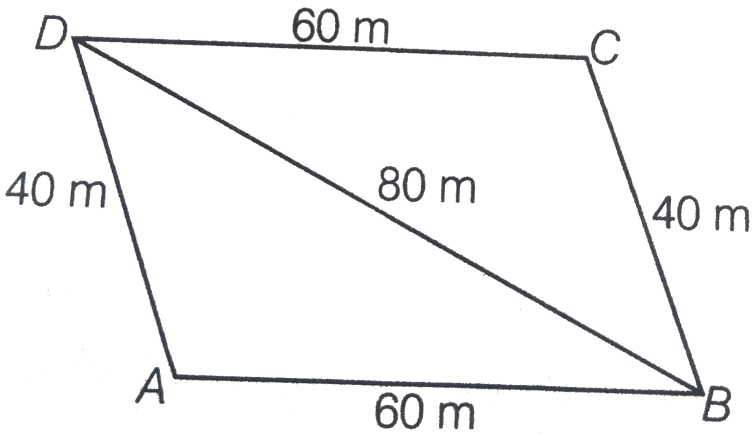
5. Find the area of a parallelogram given in the figure. Also, find the length of the altitude from vertex A on the side DC.

6. A field in the form of a parallelogram has sides 60 m and 40 m and one of its diagonals is 80 m long. Find the area of the parallelogram.

7. The perimeter of a triangular field is $420\ m$ and its sides are in the ratio $6:7:8$. Find the area of the triangular field.

8. The sides of a quadrilateral ABCD are $6\ cm$, $8\ cm$, $12\ cm$ and $14\ cm$ (taken in order), respectively and the angle between the first two sides is a right angle. Find its area.
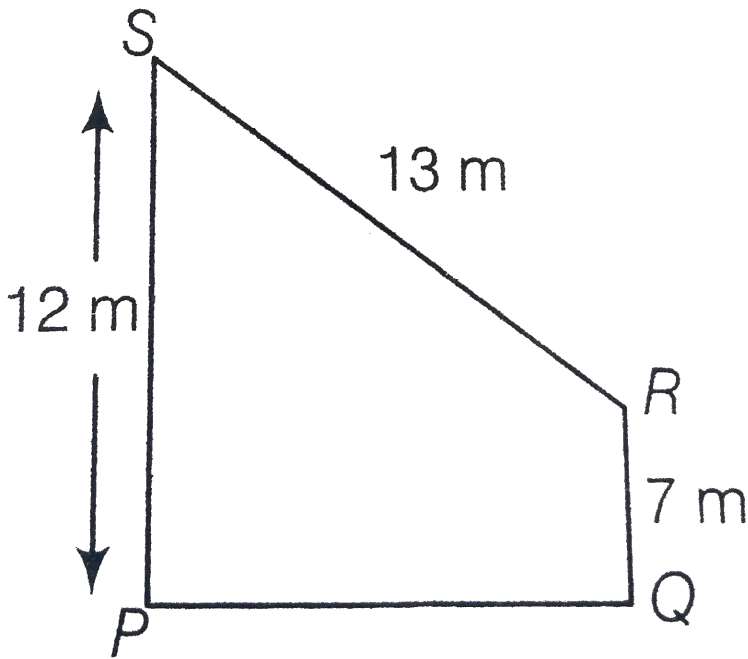
9. A rhombus shaped sheet with perimeter $40\ cm$ and one diagonal $12\ cm$, is painted on both sides at the rate of $Rs\ 5$ per cm^2. Find the cost of painting.
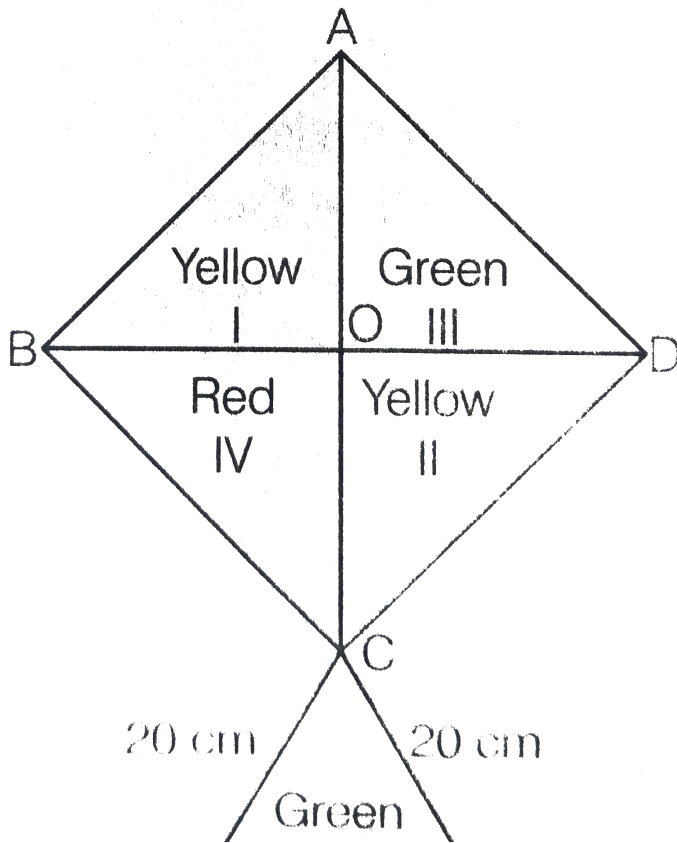
10. Find the area of the trapezium PQRS with height PQ given in the figure given below

Long Answer Type Questions

1. How much paper of each shade is needed to make a kite given in figure, in which ABCD is a square with diagonal 44 cm.

Yellow I

Green O III

B

D

Red IV

Yellow II

C

20 cm

20 cm

Green

A

2. The perimeter of a triangle is $50\ cm$. One side of the triangle is $4\ cm$ longer than the smaller side and the third side is $6\ cm$ less than twice the smaller side. Find the area of the triangle.

3. The area of a trapezium is $475\ cm^2$ and the height is $19\ cm$. Find the lengths of its two parallel sides, if one side is $4\ cm$ greater than the other.

4. A rectangular plot is given for constructing a house having a measurement of $40\ m$ long and $15\ m$ in the front. According to the laws, a minimum of $3\ m$, wide space should be left in the front and back each and $2\ m$ wide space on each of other sides. Find the largest area where house can be constructed.

5. A field is in the shape of a trapezium having parallel sides $90\ m$ and $30\ m$.

These sides meet the third side at right angles. The length of the fourth side is $100\ m$. If it costs $Rs\ 4$ to plough $1\ m^2$ of the field, find the total cost of ploughing the field.

6. In figure, $\triangle ABC$ has sides $AB = 7.5\ cm$, $AC = 6.5\ cm$ and $BC=7\ cm$. On base BC a parallelogram $DBCE$ of same area as that of $\triangle ABC$ is constructed. Find the height DF of the parallelogram.
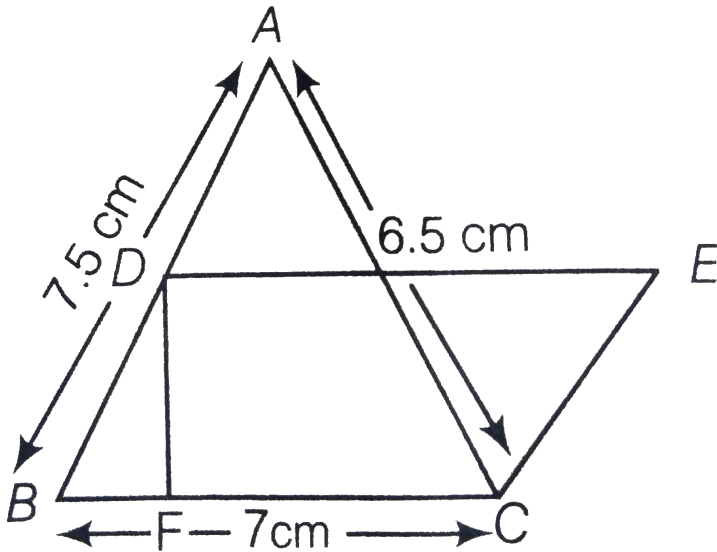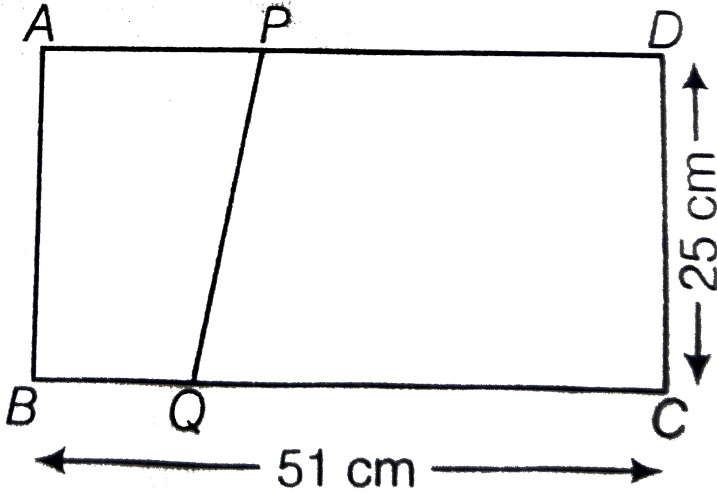
7. The dimensions of a rectangle ABCD are

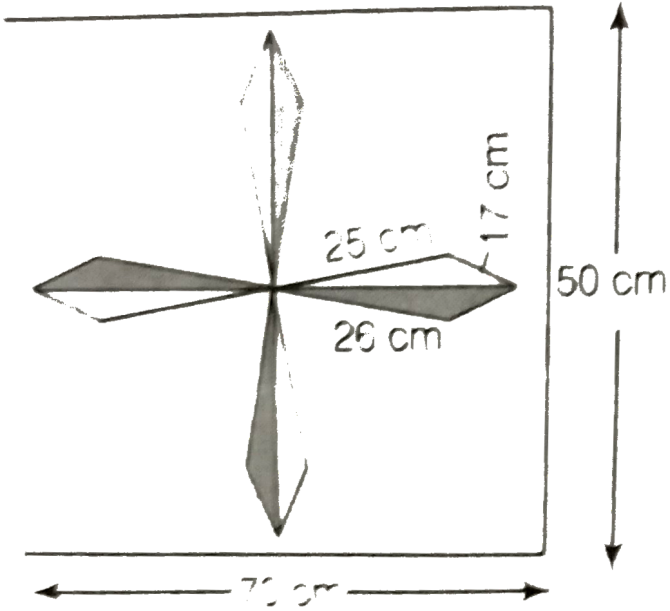$51\ cm \times 15\ cm$. $A trapezium PQCD with its paral \leq lsides QC$ and $PD \in$. $If the area of the trapezium PQCD is$

(5)/(6)` th part of the area of the rectangle. Find the length QC and PD.

8. A design is made on a rectangular tile of dimensions $50\ cm \times 70\ cm$ as

shown in figure. The design shows 8 triangle, each of sides $26\ cm$, $17\ cm$

and $25\ cm$. Find the total area of the design and the remaining area of

the tiles.