MATHS

BOOKS - NCERT MATHS (HINGLISH)

HERON'S FORMULA

Herons Formula

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

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

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3. The sides of a triangle are $56cm$, $60cm$ and $52cm$ 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

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

A. $5.196 \quad cm^2$

B. $0.866 \quad cm^2$

C. $3.496 \quad cm^2$

D. $1.732 \quad cm^2$

Answer: A

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5. The length of each side of an equilateral triangle having an area of $9\sqrt{3}cm^2$ 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

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7. The sides of a triangle are $35cm, 54cm$ and $61cm,$ 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

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

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

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

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 $6cm, 8cm \text{ and } 10cm$ .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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10. The area of a triangle with base $4cm$ and height $6cm$ is $24cm^2$.

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

A. true

B. false

C. can not detemine

D. none of these

Answer: A

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

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13. Find the area of the equilateral triangle whose each side is $8cm$.

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14. If the side of a rhombus is $10cm$ and one diagonal is $16cm$, then area of the rhombus is

A. $24cm^2$

B. $48cm^2$

C. $72cm^2$

D. $96cm^2$

Answer: D

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15. 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.

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

A. Rupee 918

B. Rupee 908

C. Rupee 910

D. Rupee 898

Answer: A

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

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

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20. The triangular side walls of a flyover have been used for advertisements. The sides of the walls are $13m, 14m$ and $15m$. 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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21. From a point in the interior of an equilateral triangle, perpendiculars are drawn on the three sides. The lengths of the perpendiculars are $14cm, 10cm$ and $6cm$. Find the area of the triangle.

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22. 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.

A. $31\sqrt{2}cm^2$

B. $32\sqrt{2}cm^2$

C. $30\sqrt{2}cm^2$

D. $42\sqrt{2}cm^2$

Answer: B

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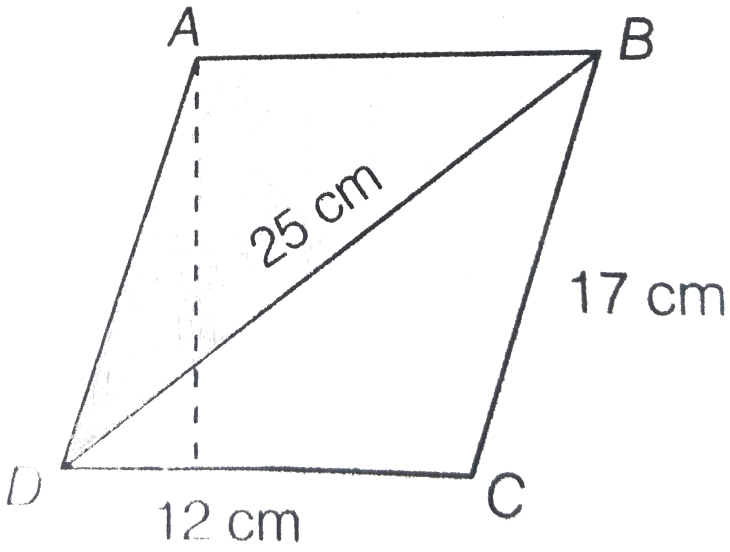
23. Find the area of a parallelogram given in the figure. Also, find the length of the altitude from vertex A on the side DC.



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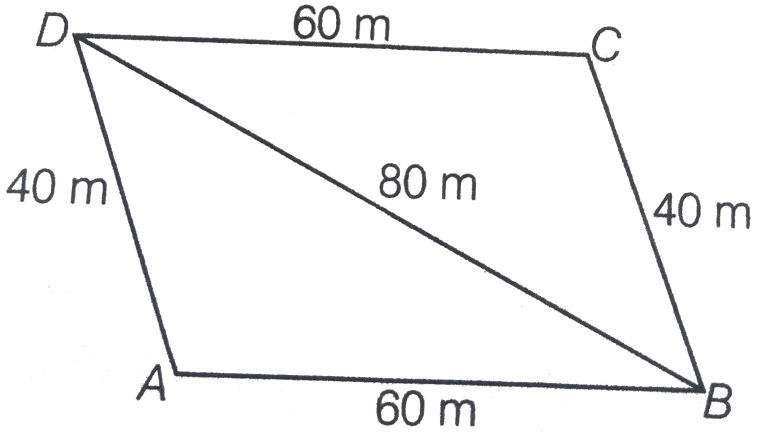
24. A field in the form of a parallelogram has sides 60 m and 40 m and one of its diagonals is 80 m long. Find the area of the parallelogram.



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

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26. The sides of a quadrilateral $ABCD$ are $6cm$, $8cm$, $12cm$ and $14cm$ (taken in order), respectively and the angle between the first two sides is a right angle. Find its area.

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27. A rhombus shaped sheet with perimeter $40cm$ and one diagonal $12cm$, is painted on both sides at the rate of rupee 5 per cm^2. Find the cost of painting.

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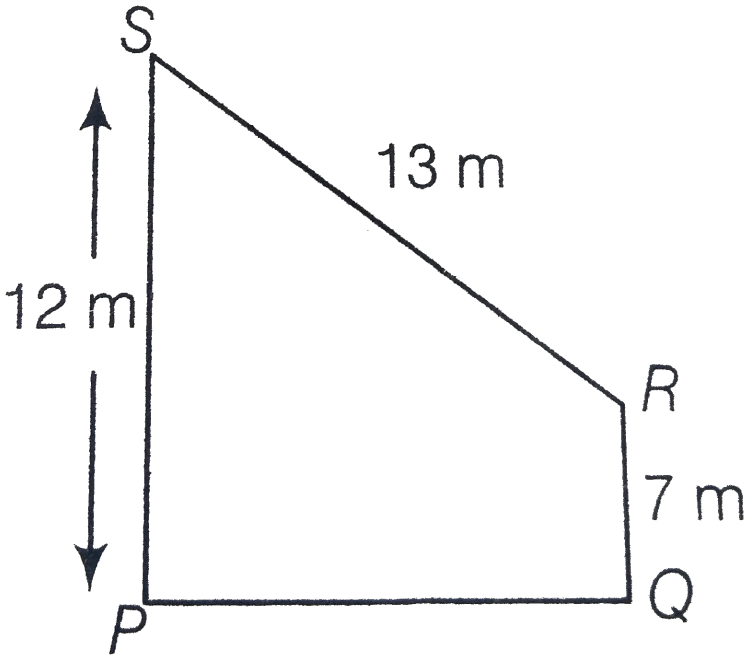
28. Find the area of the trapezium $PQRS$ with height PQ given in the figure given below



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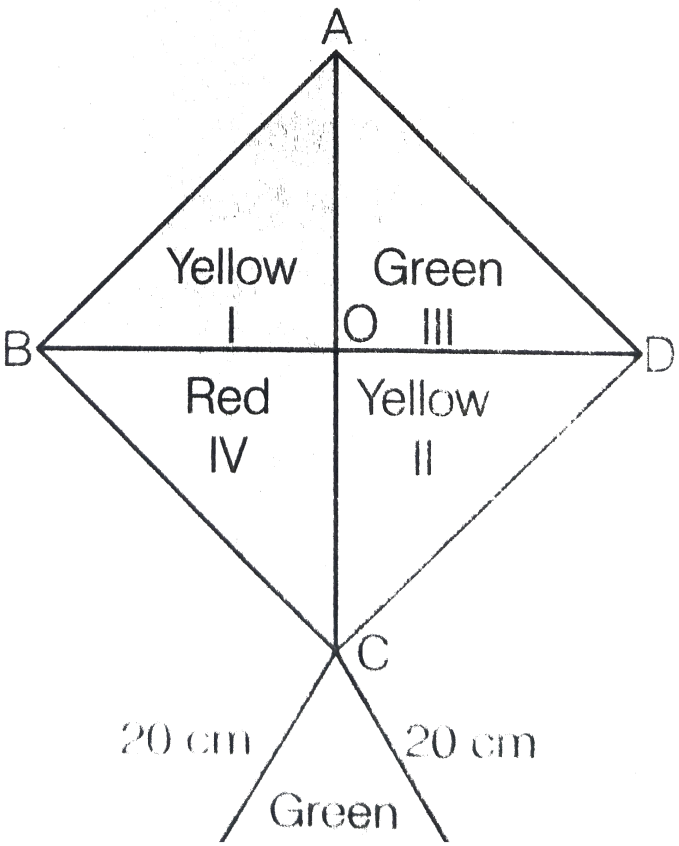
29. How much paper of each shade is needed to make a kite given in figure, in which $ABCD$ is a square with diagonal $44cm$.



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

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

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32. A rectangular plot is given for construcitng 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.

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

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

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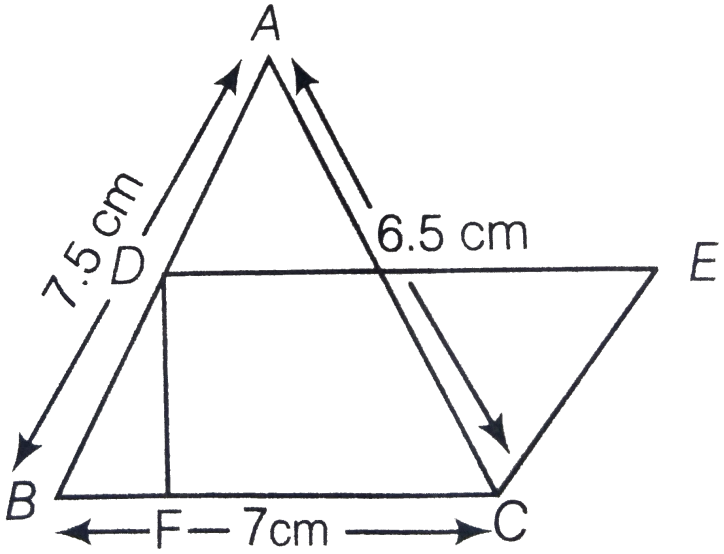
34. In figure, $\triangle$ ABC has sides AB=7.5 cm, AC = 6.5 cm and BC=7cm. On base BC a parallelogram DBCE of same area as that of $\triangle$ ABC is constructed. Find the height DF of the parallelogram.



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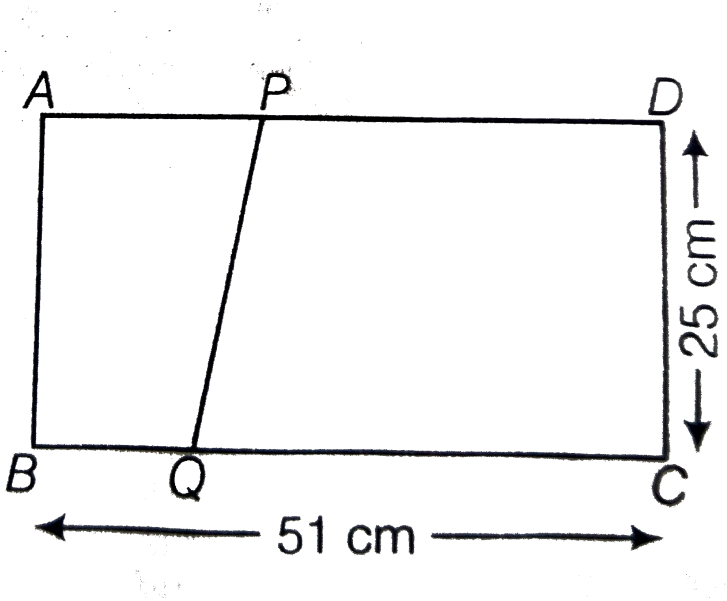
35. The dimensions of a rectangle ABCD are $51\text{ cm} \times 15\text{ cm}$. $AtrapeziumPQCDwithitsparal \leq lsidesQC$ and $PD \in$. $Ifthearea ofthetrapezium PQCDis$

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



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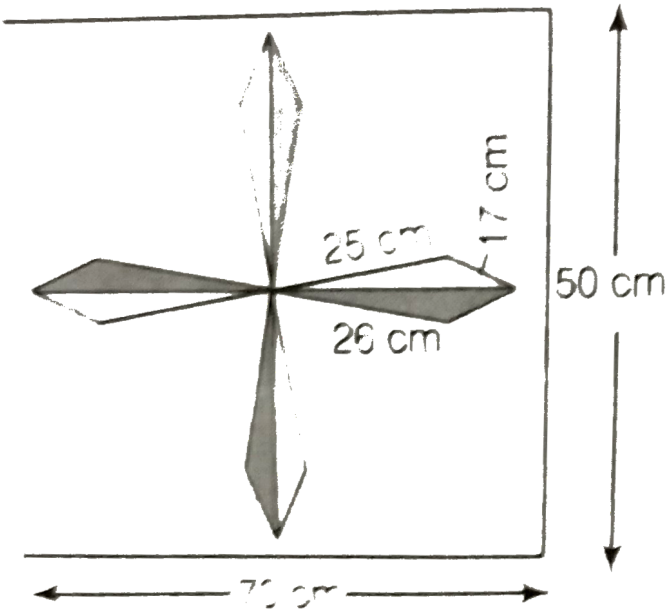
36. A design is made on a rectangular tile of dimensions $50\,\text{cm} \times 17$ cm as shown in figure. The design shows 8 triangle, each of sides 26 cm, 17 cm and 25 cm. Find the total area of the design and the remaining area of

the tiles.



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