MATHS

BOOKS - CBSE COMPLEMENTARY MATERIAL MATHS (HINGLISH)

HERON'S FORMULA

PART A

1. The sides of a triangle are $3cm$, $4cm$ and $5cm$.

What is its area?

A. $6cm^2$

B. $8cm^2$

C. $5cm^2$

D. $10cm^2$

Answer: A

Watch Video Solution

2. What is the area of an equilateral triangle with side $2cm$?

A. $4\sqrt{3}cm^2$

B. $3\sqrt{3}cm^2$

C. $6cm^2$

D. $\sqrt{3}cm^2$

Answer: D

Watch Video Solution

3. The area of a triangle is $150cm^2$ and its sides are in the ratio $3:4:5$. What is its perimeter.

A. $10cm$

B. $30cm$

C. $45cm$

D. $60cm$

Answer: D

Watch Video Solution

4. Area of equilateral triangle of side a unit is

A. $\frac{\sqrt{3}}{2}a^2$

B. $\frac{\sqrt{3}}{4}a^2$

C. $\frac{\sqrt{3}}{2}a$

D. $\frac{\sqrt{3}}{4}a$

Answer: B

Watch Video Solution

5. The area of an isosceles triangle each of whose equal sides is $13cm$ and whose base is $24cm$ is:

A. $45cm^2$

B. $48cm^2$

C. $60cm^2$

D. $75cm^2$

Answer: C

Watch Video Solution

6. The height of an equilateral triangle is $6cm$. Then the area of the triangle is

A. $15\sqrt{3}cm^2$

B. $32\sqrt{3}cm^2$

C. $12\sqrt{3}cm^2$

D. $17\sqrt{3}cm^2$

Answer: C

Watch Video Solution

7. Sides of a triangle are in the ratio $12:17:25$ and its perimeter is $540cm$. Its area will be-

A. $6000cm^2$

B. $9000cm^2$

C. $12000cm^2$

D. None of these

Answer: B

Watch Video Solution

8. The area of triangle two sides of which are $18cm$ and $10cm$ and its perimeter is $42cm$ will be-

A. $14\sqrt{11}cm^2$

B. $21\sqrt{11}cm^2$

C. $35\sqrt{11}cm^2$

D. None of these

Answer: B

Watch Video Solution

9. The height corresponding to the longest side of the triangle whose sides are $42cm$, $34cm$ and $20cm$ is length is,

A. $15cm$

B. $36cm$

C. $16cm$

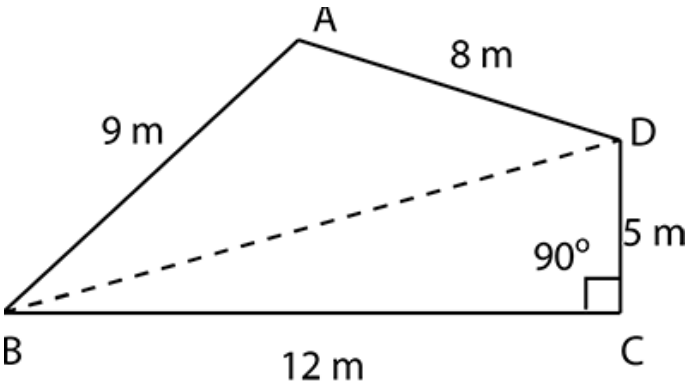
D. $23cm$

Answer: C

Watch Video Solution

10. A park in the shape of a quadrilateral $ABCD$ has

$\angle C = 90^\circ, AB = 9m, BC = 12m, CD = 5m$ and $AD = 8m$. How much area does it occupy.



A. $56.4m^2$

B. $55.4m^2$

C. $65.4m^2$

D. None of these

Answer: B::C::D

Watch Video Solution

11. The altitude of a triangular field is one-third of its base. If the cost of showing the field at $Rs.\ 58$ per hectare is $Rs.\ 783$ then its altitude is

A. $900m$

B. $600m$

C. $300m$

D. None of these

Answer: C

Watch Video Solution

12. The height of an equilateral triangle is $6cm$, then the area of the triangle is

A. $9\sqrt{3}cm^2$

B. $3\sqrt{3}cm^2$

C. $12\sqrt{3}cm^2$

D. $17\sqrt{3}cm^2$

Answer: C

Watch Video Solution

13. An isosceles triangle has perimeter 30 cm and each of the equal sides is 12 cm. Find the area of the triangle.

A. $9\sqrt{15}$

B. $17\sqrt{15}$

C. $12\sqrt{15}$

D. $6\sqrt{15}$

Answer: A

Watch Video Solution

14. The base of a right angled triangle is $48cm$ and its hypotenuse is $50cm$ then its area is

A. $150cm^2$

B. $336cm^2$

C. $300cm^2$

D. $475cm^2$

Answer: B

Watch Video Solution

15. An isosceles right triangle has area $8cm^2$ .Find the length of hypotenuse.

A. $\sqrt{32}cm$

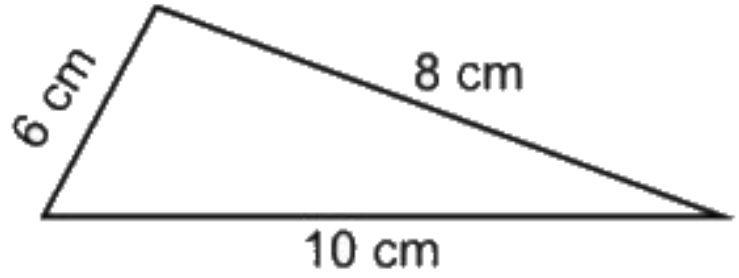
B. $\sqrt{16}cm$

C. $\sqrt{48}cm$

D. $\sqrt{24}cm$

Answer: A

Watch Video Solution



16.

The cost of painting the given sign board at the rate of 9 paise per cm^2 is

A. Rs 2.00

B. Rs 2.16

C. Rs. 2.48

D. Rs 3.00

Answer: B

Watch Video Solution

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

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

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

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

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

Answer: D

Watch Video Solution

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

A. $16\sqrt{5}cm$

B. $28cm$

C. $10\sqrt{5}cm$

D. $24\sqrt{5}cm$

Answer: D

Watch Video Solution

19. The base of a triangle is 12cm and height is 8cm then area of triangle is

A. $48cm^2$

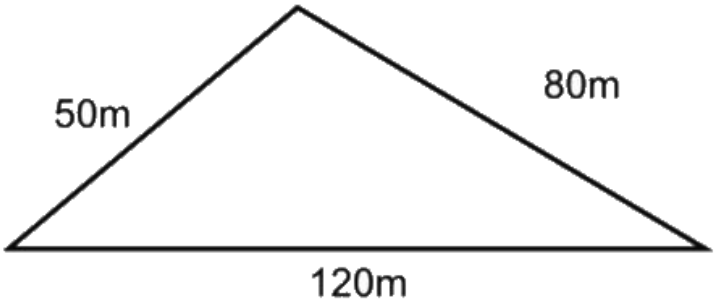
B. $24cm^2$

C. $96cm^2$

D. $56cm^2$

Answer: A

Watch Video Solution



20.

A gardener want to plant grass inside the given of land. How much area does he need to plant.

A. $85\sqrt{15}m^2$

B. $110\sqrt{15}m^2$

C. $375\sqrt{15}m^2$

D. $97\sqrt{15}m^2$

Answer: A::B::C

Watch Video Solution

21. Find the area of a triangle whose base and altitudes are 8cm and 5cm.

Watch Video Solution

22. Find the area of an equilateral triangle whose sides are 4cm each.

Watch Video Solution

23. If sum of two sides of a triangle is 17cm and its perimeter is 30cm, then what is the length of third side.

Watch Video Solution

24. If perimeter of a triangle is 24cm and sides are in the ration 2:1:3, then find the longest side?

Watch Video Solution

25. If each sides of a triangle is doubled then how many times the perimeter of triangle increased?

Watch Video Solution

26. If area of a triangle is $50cm^2$ and one of its sides is 10cm then find the length of corresponding altitude.

Watch Video Solution

27. The area of an equilateral triangle is $16\sqrt{3}cm^2$ then what will be the length of each side of the triangle?

Watch Video Solution

28. A square has each side of 5cm. Find the length of one of its diagonals.

Watch Video Solution

29. If the length and corresponding height of a parallelogram are 10 cm and 8cm then find the area of a triangle made by its diagonal.

Watch Video Solution

30. If one side of a triangle is 9.5m and its corresponding altitude is 12 m then what will be the area of triangle.

Watch Video Solution

PART B

1. If $(s-a)=5cm$

(s-b)=10cm

$(s-c)=1cm$, find a,b & c

Where a,b & c are sides of the triangle.

Watch Video Solution

2. The ratio between the sides of a triangle are 3:5:7 and its perimeter is 300cm find the sides of triangle.

Watch Video Solution

3. Find the cost of fencing the ground in the form of triangle with sides 16m, 12m and 18m, the rate of fencing is Rs. 25 per meter.

Watch Video Solution

4. Find the area of isosceles triangle whose non equal side are of 12cm having the corresponding altitude 7.5 cm.

Watch Video Solution

5. Two parallel side of a trapezium are $60cm\ and\ 77cm$ and other sides are $25cm\ and\ 26cm$. Find the area of the trapezium.

Watch Video Solution

6. In a $ABC,\ AB = 15cm,\ BC = 13cm\ and\ AC = 14cm$. Find the area of $ABC\ and$ hence its altitude on AC

Watch Video Solution

7. Prove that the area of an equilateral triangle is equal to $\frac{\sqrt{3}}{4}a^2$, where a is the side of the triangle. GIVEN : An equilateral triangle ABC such that $AB = BC = CA = a$. TO PROVE : $ar(ABC) = \frac{\sqrt{3}}{4}a^2$ CONSTRUCTION : Draw $AD \perp BC$.

Watch Video Solution

8. 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.

Watch Video Solution

PART C

1. The area of a quadrilateral is $360m^2$ and the perpendiculars drawn to one of the diagonal from the opposite vertices are 10m and 8m. Find the length of the diagonal.

Watch Video Solution

2. If in a triangle with sides a, b & c, $(s-a)=5cm, (s-b)=10cm \& (s-c)=1cm$ find area of the triangle.

Watch Video Solution

3. The cost of levelling a park at the rate of Rs 2 per km^2 is Rs 2700. If the park is in right angled triangular form with one side being 45km. Find the hypotenuse.

Watch Video Solution

4. Find the area of rhombus whose perimeter is 100m and one of whose digonal is 30m.

Watch Video Solution

5. The sides of a triangle shaped sheet are 5cm, 12cm and 13cm. Find the cost of painting on the sheet at the rate of Rs 30 per cm^2?

Watch Video Solution

6. One side of a right angled triangle is 20 cm and the difference in lengths of its hypotenuses & other side is 8cm. Find the other side and area of the triangle.

Watch Video Solution

7. If perimeter of a triangle is x cm and its sides are p,q and r cm. what will be the area of triangle ? Use the heron's formula.

Watch Video Solution

PART D

1. A triangular park ABC has sides 120m, 80m and 50m. A gardener Dhania has to put a fence all around it and also plant grass inside. How much area does she need to plant? Find the cost of fencing it with barbed wire at the rate of Rs 20 per metre l

A. (i) Rs 12250, (ii) $374\sqrt{15}m^2$

B. (i) Rs 12250, (ii) $375\sqrt{15}m^2$

C. (i) Rs 12240, (ii) $375\sqrt{15}m^2$

D. (i) Rs 12240, (ii) $374\sqrt{15}m^2$

Answer: B

Watch Video Solution

2. A triangular hoarding of dimensions 11m, 6m and 15m is used for commerical activities. The hoarding yield an earning of Rs 5000 per m^2 per month. Calculate the total earning by the hoarding in a month [Use $\sqrt{2} = 1.41$]

Watch Video Solution

3. If each side of a triangle is doubled, find the ratio of the areas of two triangles, the given triangle & the triangle obtained on doubling the sides. Also find the percentage increase in the area of new triangle.

Watch Video Solution

PRACTICE TEST

1. Find the length to sidesof an equilateral triangle having area $a\sqrt{3}cm^2$.

Watch Video Solution

2. If $(s-a)=5cm, (s-b)=10cm, (s-c)=1cm$ .find s.

Watch Video Solution

3. Find the area of isosceles triangle whose equal sides are of length 15 cm each & the third side is 12cm.

Watch Video Solution

4. If each sides of a triangle is doubled then find the ratio of the area of the new triangle thus formed and the given triangle.

Watch Video Solution

5. The sidesof a triangle are in the ratio 25:17:12 and its perimeter is 540 cm. find the area of the triangle.

Watch Video Solution

6. The areaof trapezium is $475cm^2$ & height is 19 cm. find length of its parallel sides if one side is 4 cm greater than the other.

Watch Video Solution

7. Thelength of sides of a triangle are 7cm, 12 cm & 13 cm. find the length of perpendicular from opposite vertex to the side whose length is 12 cm.

Watch Video Solution

8. The cost of fencing a rectangular field at Rs 18 per metre is Rs 1980.If length of the field is 32 m, find its Breadth.