MATHS

BOOKS - CALCUTTA BOOK HOUSE

MATHS (BENGALI ENGLISH)

TRIANGLE

Examples Mcq

1. The lengths of each of the equal side of an isosceles right-angled triangle be a units, then

its perimeter is

A. $\left(1+\sqrt{2}\right)a$ units

B. $\left(2+\sqrt{2}\right)a$ units

C. 3a units

D. $\left(3+2\sqrt{2}\right)a$ units

Answer:

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2. If the area, perimeter and height of an equilateral triangle be A, s, h respectively, then the value of $\frac{2A}{sh}$ is

A. 1

B. $\frac{1}{2}$

C. $\frac{1}{3}$

D. $\frac{1}{4}$

Answer:

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3. D is a point on AC of ΔABC such that $AD:DC=3:2,$ If the area of the ΔABC be 40 sq cm, then the area of the ΔBDC is

A. 16 sq-cm

B. 24 sq-cm

C. 30 sq-cm

D. 36 sq-cm

Answer:

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4. If the differences of each of the sides of a triangle from its half-perimeter be 8cm, 7 cm, and 5 cm, then the area of the triangle is

A. $20\sqrt{7}$ sq-cm

B. $10\sqrt{14}$ sq-cm

C. $20\sqrt{14}$ sq-cm

D. 140 sq-cm

Answer:

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Examples Short Answer Type Question

1. The numerical value of the area and the height of an equilaterl triangle are equal. Find the length of the side of the triangle.

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2. If the length of the sides of a triangle be doubled, then what percentage of its area will be increased ?

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3. If the sides of a right-angled triangle be (x - 2) cm, x cm and (x +2) cm, then what is the length of its hypotenuse ?

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4. If a square is drawn on the height of an equilaterla triangle, then what will be the ratio between areas of the triangle and the square ?

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Examples Long Answer Type Question

1. If the height of triangle be decreased by $40\,\%$ and its base be increase by $40\,\%$ then what change of its area will be perfomed ?

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2. The perimeter of an isoceles triangle is 544 cm. The length of each equal sides is $\frac{5}{6}$ part of

its base. Find the area of the triangle.

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3. If the length of the hypotenuse of right-angled isoceles triangle be $12\sqrt{2}cm$, then find its area.

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4. The ratio of the sides of a triangular park is $2:3:4$. If the perimeter of the park be 216 m,

then find the distance (perpendicular) of the greates side of the park from its opposite vertex.

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5. If the perpendicular distances of the sides of an equilateral triangle from any point within the triangle be 10 cm, 12 cm and 18 cm, then find the area of the triangle.

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6. If the perimeter of a right-angled isoceles triangle be $\left(\sqrt{2+1}\right)cm,$ then find the length of its hypotenuse and also its area.

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7. If the length of the sides of an equilateral triangle be increased by 1 cm each, then the area of the triangle increases by $\sqrt{3}$sq-cm. Find the length of the equilateral triangle.

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8. The ratio of the areas of an equilateral triangle and a square is $\sqrt{3}:2$. If the length of the diagonal of the square be 60 cm, find the perimeter of the equilateral triangle.

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9. The length of the hypotenuse of the right-angled triangle and its perimeter be 13 cm and 30 cm respectively. Find the area of the triangle.

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Exercise 1 1 Mcq

1. The area of an equilateral triangle is $4\sqrt{3}cm^2$. Then the of each of the sides of the triangle is

A. $\frac{2\sqrt{3}}{3}cm$

B. $\frac{\sqrt{3}}{4}cm$

C. 3.cm

D. 4 cm

Answer: D

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2. The side of a square is a and each of the sides of an equilateral triangle is a. Then the ratio of their areas is

A. $2:1$

B. $2:\sqrt{3}$

C. $4:3$

D. $4:\sqrt{3}$

Answer: D

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3. The perimeter of an isosceles triangle is 14 cm. The ratio of its lateral sides and base is $5:4$ Then the area of the triangle is

A. $\frac{1}{2}\sqrt{21}cm^2$

B. $\frac{3}{2}\sqrt{21}cm^2$

C. $\sqrt{21}cm^2$

D. $2\sqrt{21}cm^2$

Answer: D

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4. The areas of a square of sides x and a triangle of base x are equal, then the height of the triangle is

A. $\frac{x}{2}$

B. x

C. 2x

D. 4x

Answer: C

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5. The sides of a triangle board are 13 m, 14 m and 15 m respectively. If it takes $Rs.8 \cdot 75$ to colour per sq-cm, then the total cost to colour the board is.

A. $Rs.688 \cdot 80$

B. $Rs. 735$

C. $Rs.730 \cdot 80$

D. $Rs.722 \cdot 50$

Answer: B

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Exercise 1 1 Short Answer Type Question

1. The area of a square and an equilateral triangle are equal. If the diagonal of the square be $12\sqrt{2}m,$ then find the area of the triangle.

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2. If the sides of an equilateral triangle be increased by 2 cm each, the area of the triangle is increased by $2\sqrt{3}cm^2$. Determine the length of each sides of the equilateral triangle.

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3. If the height of an equilateral triangle be be 15 cm, then find the perimeter and area of

triangle.

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4. The base of an isosceles triangle is 12 cm and the length of each of the equal sides is 10 cm, find the height of the triangle.

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5. The area of equilateral triangle is 25 sq-cm Find its perimeter.

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Exercise 1 1 Long Answer Type Question

1. The diagonal of a square is $10\sqrt{3}cm$ and the area of an equilateral triangle is equal to the area of the square. If a square is constructed on any side of the triangle, then find its area.

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2. The ratio of the sides of a triangular $5:12:13$. If the area of the land be 900 sq-m, find its perimeter.

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3. The sides of a triangle are 15 cm, 20 cm and 25 cm. Find the perpenducular distance of its greatest sides from its oppsite vertex.

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4. The ratio of the sides of a triangle is $3:4:5$ and its area is 7776 sq-cm. Find the length of the sides of the triangle and also find the perpendicular distance of its greates sides from the oppsite vertex of it.

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5. The length of the base of a right-angled triangle is 5 m more than $\frac{1}{2}$ part of its perpendicular drawn on it and the length of the hypotenuse is 9 m more than $\frac{4}{5}$ part of its

perpendicular. Find the length of the perpendicular. Also find the area of the triangle.

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6. Perpendicular are drawn from an internal point of an equilateral triangle to its sides. If the lengths of the perpendiculars be 9 cm, 11 cm and 10 cm, then find the sides and area of the triangle

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7. The length of the medians of a triangle are 9 cm, 12 cm and 15 cm. Find its area.

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8. A rod of height 6 cm is displaced 90 cm from the foot of a moutain of height 126 cm. Find the distance of the top of the mountain from the vertex of the rod.

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9. One of the sides of a right- angled triangle is 36 cm and the sum of the hypotenuse and another side is 54 cm. Find the length of the hypotenuse and another side.

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10. The hypotenuse of a right-angled triangle is 26 cm and the difference between the other two sides is 14 cm. Find the length of the two sides.

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11. The perimeter of a right-angled triangle is 60 cm and hypotenuse is 26 cm. Find the lengths of its other two sides.


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12. The perimeter of right-angled isosceles triangle is $\left(\sqrt{2}+1\right)m$. Find the length of the hypotenuse.


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13. The two sides adjacent to the right-angled triangle are 9 cm and 12 cm. Find the length of the perpendicular drawn from the vertex to the hypotenuse.

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14. The perimeter of an equilatral triangle is so metre as sq-meteres of its area. Find its length of side.

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