MATHS

BOOKS - CENGAGE

PROPERTIES OF TRIANGLE, HEIGHT AND DISTANCE

Question Bank

1. The area of a right triangle is 6864 sq. units.

If the ratio of its legs is $143:24$, then the value

of r is _____

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2. In ΔABC, the incircle touches the sides BC, CA and AB, respectively, at D, E,and F. If the radius of the incircle is 4 units and BD, CE, and AF are consecutive integers, then the value of s, where s is a semi-perimeter of triangle, is _____

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3. The altitudes from the angular points A,B, and C on the opposite sides BC, CA and AB of ΔABC are 210, 195 and 182 respectively. Then the value of a is ____

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4. Sum of all the radii of the circles touching the coordinate axes and the line $3x + 4y = 12$, is

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5. In triangle ABC if $\sin A \sin B \sin C$ is equal to 10^{-3} and $(AB)(BC)(CA)$ is equal to 10^3 then the area of triangle ABC, is

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6. In ΔABC, If $\angle C = 3\angle A$, $BC = 27$, and $AB = 48$. Then the value of AC is _____

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7. The area of a triangle ABC is equal to $\left(a^2+b^2-c^2\right)$, where a, b and c are the sides of the triangle. The value of $\tan C$ equals

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8. A flagstaff on the top of the tower 80 meter high, subtends an angle $\tan^{-1}\left(\frac{1}{9}right\right)$ at a.point on the ground 100 -meters away from the foot of the tower. Find the height of the flag-staff (in metres)

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9. A 6 -ft tall man finds that the angle of elevation of the top of a 24 -ft-high pillar and the angle of depression of its hase are complementary angles. The distance of the man (in metres) from the pillar is

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10. A man standing on a level plane observes the elevation of the top of a pole to be θ. He

then walks a distance equal to double the height of the pole and then finds that the elevation is now 2θ. The value of $\cot\theta$ is

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11. Two parallel towers A and B of different heights are at some distance on same level ground. If angle of elevation of a point P at $20m$ height on tower B from a point Q at $10m$ height on tower A is θ and is equal to half the-angle of elevation of point R at $50m$

height on A from point P on B, then sine of θ is

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12. A man from the top of a 100 metres high tower sees a car moving towards the tower at an angle of depression of 30°. After some time, the angle of depression becomes 60°. The distance (in metres) travelled by the car during this time is

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13. From the top of a light house, $60m$ high with its base at sea level, the angle of depression'of a boat is 15°.The distance of the boat (in metres) from the light house is

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14. At a point A, the angle of elevation of a tower is such that its tangerit is $\frac{5}{12}$, on walking $120m$ nearer the tower the tangent of

the angle of elevation is $\frac{3}{4}$. The height of the tower (in metres) is

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15. For a man , the angle of elevation of the highest point of a tower situated west to him is 60° . On walking 240 meters to north , the angle of elevation reduces to 30° . The height of the tower is

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