2IIM

CAT Blitzkrieg

ALL CAT QUESTIONS FROM GEOMETRY-2

How to Blitzkrieg

Saturday 12 PM

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1. CAT 2020 - Slot 2

From an interior point of an equilateral triangle, perpendiculars are drawn on all three sides. The sum of the lengths of the three perpendiculars is s. Then the area of the triangle is

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

B. $\frac{2s^2}{\sqrt{3}}$

C. $\frac{s^2}{\sqrt{3}}$

D. $\frac{\sqrt{3}s^2}{2}$

2. CAT 2020 - Slot 2

Let C be a circle of radius 5 meters having a center at O. Let PQ be a chord of C that passes through points A and B where A is located 4 meters north of O and B is located 3 meters east of O. Then, the length of PQ, in meters, is nearest to

A. 6
B. 7.2
C. 8.8
D. 7.8

3. CAT 2020 - Slot 2

The sum of the perimeters of an equilateral triangle and a rectangle is 90cm. The area, T, of the triangle and the area, R, of the rectangle, both in sq cm, satisfy the relationship $R = T^2$. If the sides of the rectangle are in the ratio 1: 3, then the length, in cm, of the longer side of the rectangle, is

A. 27

B. 18

C. 21

D. 24

4. CAT 2020 - Slot 2

Let C_1 and C_2 be concentric circles such that the diameter of C_1 is 2 cm longer than that of C_2. If a chord of C_1 has a length 6 cm and is a tangent to C_2, then the diameter, in cm, of C_1 is

5. CAT 2020 - Slot 3

In a trapezium, AB is parallel to DC, BC is perpendicular to DC and $\angle BAD = 45°$. If DC = 5cm, BC = 4cm, the area of the trapezium in sq cm is

6. CAT 2019 - Slot 1

In a circle of radius 11 cm, CD is diameter and AB is a chord of length 20.5 cm. If AB and CD intersect at a point E inside the circle and CE has a length of 7 cm, then the difference between the lengths of BE and AE, in cm, is

A. 1.5

B. 3.5

C. 0.5

D. 2.5

7. CAT 2019 - Slot 1

Corners are cut off from an equilateral triangle T to produce a regular hexagon H. Then, the ratio of the area of H to the area of T is

A. 5 : 6
B. 3 : 4
C. 2 : 3
D. 4 : 5

8. CAT 2019 - Slot 1

AB is a diameter of a circle of radius 5 cm. Let P and Q be two points on the circle so that the length of PB is 6 cm, and the length of AP is twice that of AQ. Then the length, in cm, of QB is nearest to

A. 8.5

B. 9.3

C. 9.1

D. 7.8

9. CAT 2019 - Slot 2

In a triangle, ABC, medians AD and BE are perpendicular to each other and have lengths of 12 cm and 9 cm, respectively. Then, the area of triangle ABC, in sq cm, is

A. 80

B. 68

C. 72

D. 78

10. CAT 2019 - Slot 2

Two circles, each of radius 4 cm, touch externally. Each of these two circles is touched externally by a third circle. If these three circles have a common tangent, then the radius of the third circle, in cm, is

A. $\frac{\pi}{3}$

B. 1

C. $\frac{1}{\sqrt{2}}$

D. $\sqrt{2}$

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