ORTHOCENTER

1. O and C are respectively orthocenter and circumcenter of a triangle PQR, P and O are joined to meet side QR at S. $\angle PQS = 60°, \angle QCR = 130°$ then $\angle RPS = ?$
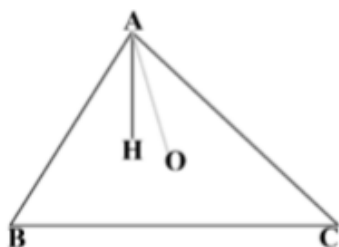
A) 30°   B) 25°   C) 45°   D) 35°

2. If the ratio of sides of a triangle are 4 : 5 : 6 and inradius is 3cm then find the largest altitude of that triangle

A) 11   B) 11.5   C) 11.25   D) 11.75

3. In an obtuse angled triangle ABC, $\angle A$ is obtuse angle and O is orthocenter. If $\angle BOC = 54$, then find the value of $\angle BAC$?

A) 108°   B) 126°   C) 136°   D) 116°

4. In $\triangle ABC,$ H is the orthocenter, O is circumcenter. If $\angle BAH = 30$ then find $\angle OAC$?

CHANDAN LOGICS
9676578793,9494558793

A) 15°   B) 45°   C) 30°   D) 60°

5. What is the distance between orthocenter and circumcenter of a triangle whose sides measure 20cm, 21cm and 29cm ?

A) 13.5   B) 14   C) 14.5   D) 15

6. In any triangle sum of all three altitude will be

A) Equal to sum of all three sides
B) Less than the sum of all three sides
C) Greater than the sum of all three sides
D) Equal to twice of the sum of all three sides

CHANDAN LOGICS
9676578793,9494558793

7. In $\triangle XYZ,$ O, I and C are orthocenter, incenter and circumcenter respectively. If $\angle XOZ = 2.5 \angle XCZ$ then $\angle XIZ = ?$

A) 95°   B) 100°   C) 105°   D) 115°

8. In $\triangle ABC,$ 'O is the orthocenter then A will be the orthocenter of ?

A) $\triangle BOC$ B) $\triangle AOC$ C) $\triangle AOB$ D) $\triangle BFC$

KEY: ORTHOCENTER

1 L   2 C   3 D   4 C   5 E   6 E   7 C   8 A   9   1.

EQUILATERAL TRIANGLE

EQUILATERAL TRIANGLE

1. If the inradius of an equilateral triangle is 3cm. Then the side of a equilateral triangle is?

A) $9\sqrt{3}$ cm   B) $6\sqrt{3}$ cm   C) $3\sqrt{3}$ cm   D) 6 cm

2. Let G be the centroid of an equilateral triangle ABC of perimeter 15 cm then the length of AG is?

CHANDAN LOGICS
9676578793,9494558793

Chandan Logics
Aspire to Inspire

Download **Chandan Logics** APP
Contact: 96 76 57 8793
94 94 55 8793
Google Play
App Store

A) $\dfrac{10}{\sqrt{3}}$

B) $6\sqrt{3}$
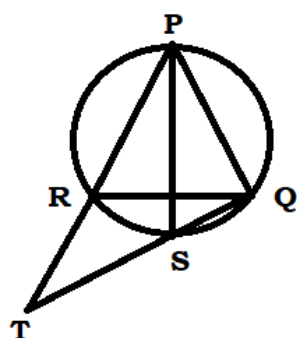
C) $5\sqrt{3}$

D) $\dfrac{5}{\sqrt{3}}$

3. If the height of the equilateral triangle is $8\sqrt{3}$ **cm** then find area of triangle.

A) $64\sqrt{3}$

B) $36\sqrt{3}$

C) $48\sqrt{3}$

D) $32\sqrt{3}$

4. An equilateral triangle is drawn on the diagonal of a square. The ratio of the areas of the triangle to that of the square is

A) $\sqrt{3} : 2$

B) $1 : \sqrt{2}$

C) $2 : \sqrt{3}$

D) $4 : \sqrt{3}$

5. In the given figure ΔPQR is equilateral triangle and PS is angle bisector of $\angle P$ then find the value of RT : TQ ?
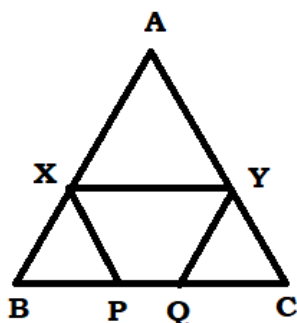

CHANDAN LOGICS
9676578793,9494558793

A) 1 : 2

B) $1 : \sqrt{3}$

C) 2 : 1

D) 2 : 3

6. In the figure below, ABC is an equilateral triangle with each side of length 30 cm. XY is parallel to BC, XP || AC and YQ || AB. If XY + XP + YQ = 40 cm, then the value of PQ is

CHANDAN LOGICS
9676578793,9494558793

A) 5 cm

B) 12 cm

C) 15 cm

D) 10 cm

7. P, Q, S and R are points on the circumference of a circle of radius r, such that PQR is equilateral triangle and PS is a diameter of the circle. What is the perimeter of the quadrilateral PQSR?

A) $2r\left(1 + \sqrt{3}\right)$

B) $2r\left(2 + \sqrt{3}\right)$

CHANDAN LOGICS
9676578793,9494558793

Follow Chandan Logics on

Download Chandan Logics APP
Contact: **96 76 57 8793 / 94 94 55 8793**
One **STOP** For **ALL Competitive EXAMS**
Google Play
App Store

Chandan Logics
Aspire to Inspire

Download Chandan Logics APP
Contact: 96 76 57 8793
94 94 55 8793
Google Play
App Store

CHANDAN LOGICS
9676578793,9494558793

C) $r\left(1+\sqrt{5}\right)$ D) $2r + r\sqrt{3}$

8. ABC is equilateral triangle. A circle with centre O and diameter equal to height of Δ cuts side AB and AC at P and Q respectively find AP/QC = ?
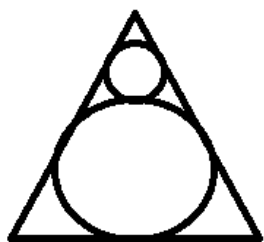
A) $\sqrt{3}:1$ B) 3:1   C) $\sqrt{5}:1$ D) $4:\sqrt{3}$

9. Two circles are placed in a equilateral triangle. What is the ratio of the area of the smaller circle to that of the equilateral triangle?

CHANDAN LOGICS
9676578793,9494558793

A) $\pi : 36\sqrt{3}$ B) $\pi : 18\sqrt{3}$

C) $\pi : 27\sqrt{3}$ D) $\pi : 42\sqrt{3}$

10. Given an equilateral triangle T1 with side 24cm, a second triangle T2 is formed by joining the midpoints of the sides of T1. Then a third triangle T3 is formed by joining the midpoints of the sides of T2. If this process of forming triangles is continued, the sum of the areas, in sq cm, of infinitely many such triangles T1, T2, T3 …. will be?
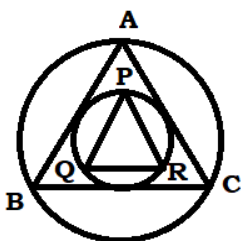
A) $192\sqrt{3}$ B) $216\sqrt{3}$ C) $168\sqrt{3}$ D) $196\sqrt{3}$

11. In the given figure Triangle ABC and triangle PQR are equilateral triangles then find the ratio of areas of two triangles

CHANDAN LOGICS
9676578793,9494558793

A) 2:1   B) 3:2   C) 4:1   D) 3:1

12. Find the area of an equilateral triangle in which length of perpendiculars on sides from a point inside the triangle are $2\sqrt{3}$ cm, $3\sqrt{3}$ cm and $5\sqrt{3}$ cm

A) $100\sqrt{3}$ B) $200\sqrt{3}$ C) $400\sqrt{3}$ D) $150\sqrt{3}$

Follow Chandan Logics on

Download Chandan Logics APP
Google Play
Contact: 96 76 57 8793 / 94 94 55 8793
One STOP For ALL Competitive EXAMS
App Store