Quant Quiz Advance Level for SSC 22th December (Questions)
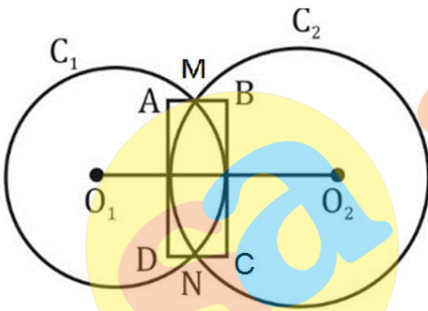
Q1. A trapezium having length of ∥ sides AB = 60 cm, CD = 100 cm & length of non-parallel sides are of length BC = 30 cm, AD = 20 cm. Find the area of the trapezium.
(a) $50\sqrt{35}$
(b) $300\sqrt{15}$
(c) $250\sqrt{5}$
(d) $360\sqrt{5}$

Q2. Volume of a pool which is 20 m long, 5 m breadth & have varying depth of 1 m at one end and 3 m at another end?
(a) 128
(b) 150
(c) 220
(d) 200

Q3. Two circles with radii 8 cm and 15 cm intersect each other at point M and N. Find the area of rectangle ABCD. If $O_1 O_2 = 17$ cm

(a) 1200/17
(b) 1440/17
(c) 1080/7
(d) 1200/7

Q4. sin 105° = ?
(a) $\frac{\sqrt{6}+\sqrt{2}}{4}$
(b) $\frac{\sqrt{3}+1}{\sqrt{2}}$
(c) $\frac{\sqrt{3}-1}{\sqrt{2}}$
(d) $\frac{\sqrt{3}-1}{2}$

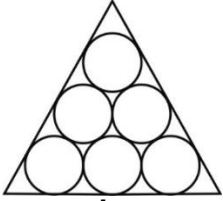**Q5.** Six equal circles of radius 'r' are drawn as shown in figure. Find the perimeter of triangle.
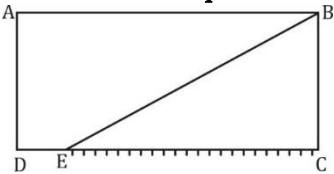

(a) $(8\sqrt{3}+6)r$
(b) $(12(\sqrt{3}+1))r$
(c) $(6\sqrt{3}+12)r$
(d) $(2\sqrt{3}+4)r$

Q6. A sphere has been drawn inside the cone of base radius 8 cm and height 6 cm. Find the maximum volume of sphere inside the given cone.
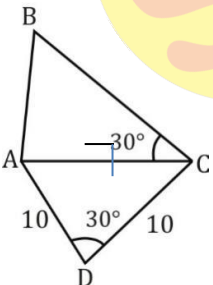(a) $(4/3)^4 8\pi$
(b) 8π
(c) $(2/3)^4 8\pi$
(d) $(4/3)^4 \pi$

Q7. AB = 20 cm, BC = 10 cm, In rectangle ABCD. A line BE has been drawn such that DE = $^1/_9$DC. Area of ΔBEC will be equal to.

(a) $\frac{8}{9}$ ABCD
(b) $\frac{4}{9}$ ABCD
(c) $\frac{3}{9}$ ABCD
(d) $\frac{3}{4}$ ABCD

Q8. In given fig. find length of AB.

(a) $\frac{10\sqrt{2}}{3+\sqrt{3}}$
(b) $\frac{10\sqrt{3}}{3-\sqrt{3}}$
(c) $\frac{10\sqrt{2}}{3+\sqrt{2}}$
(d) $\frac{5\sqrt{2}}{3-\sqrt{3}}$

Q9. $\dfrac{\cos^2 20° + \cos^2 70°}{\sec^2 50° - \cot^2 40°} - 2\cot 58° \tan 32° - 4\tan 13° \tan 37° \tan 53° \tan 77° \tan 45° + 2\csc^2 58° =$?

(a) 1

(b) 2

(c) –1

(d) –2

Q10. $x\cos^3 \theta + y\sin^3 \theta = \sin \theta \cos \theta$ & $x\cos \theta = y\sin \theta$ then, $x^2 + y^2 = $?

(a) 0

(b) 4

(c) 1

(d) 2

Q11. If roots of quadratic eqn. $x^2 + px + q = 0$ are $\tan 30°$ & $\tan 15°$. Then value of $2 + q - p$ is

(a) 0

(b) 1

(c) 2

(d) 3

Q12. If $a = \dfrac{b^2}{b-a}$ then $a^3 + b^3 = $?

(a) 6ab

(b) 1

(c) 2

(d) 0

Q13. What is the length of the uniform wire(in cm) of diameter 0.6 cm that can be drawn from solid sphere of radius 9 cm ?

(a)12000

(b)11000

(c)10800

(d)9200

Q14. If the shortest median of a right angle ΔABC is of 25 units. Given BC = 40 cm and right angled at B. Find the area of the ΔABC ?

(a) 580

(b) 420

(c) 525

(d) 600

Q15. A circle has two parallel chords drawn inside. Both the ∥chords lie at the opposite side of the center. The distance of the center and the chords are a & b units. If length of the first chord is l, then find the length of the other chord?

(a) $\sqrt{4a^2 - 4b^2 - l^2}$

(b) $\sqrt{a^2 + b^2 + l^2}$

(c) $\sqrt{4a^2 + 4b^2 + l^2}$

(d) $\sqrt{4a^2 - 4b^2 + l^2}$

Q16. If $\frac{x-a^2}{b+c} + \frac{x-b^2}{c+a} + \frac{x-c^2}{a+b} = 4(a + b + c)$, where a, b, c are real positive numbers, then value of x is

(a) $(a + b + c)^2$

(b) $a^2 + b^2 + c^2$

(c) $ab + bc + ca$

(d) $ab + bc + ca - a^2 - b^2 - c^2$

Q17. If $p + q + r = 1$, $p^2 + q^2 + r^2 = 9$ & $p^3 + q^3 + r^3 = 1$ then what is the value of $\frac{1}{p} + \frac{1}{q} + \frac{1}{r}$?

(a) 1

(b) -4

(c) -1

(d) -8

Q18. If $z + \frac{1}{z} = 1$ then $z^{64} + \frac{1}{z^{64}} = ?$

(a) 0

(b) -1

(c) 1

(d) -2

Q19. $2a^{-\frac{1}{3}} + 2a^{\frac{1}{3}} = 5$. Find the value of 'a'?

(a) 8 or $\frac{1}{8}$

(b) 2 or $\frac{1}{2}$
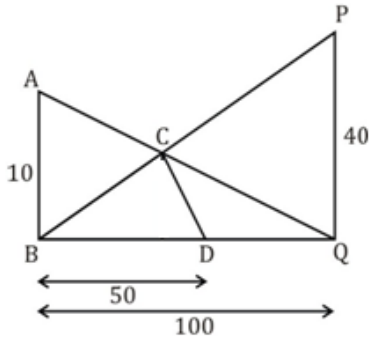
(c) 3 or $\frac{1}{3}$

(d) 4 or $\frac{1}{4}$

Q20. A cylinder has been drawn inside the sphere of diameter 7cm. Find the maximum volume of a cylinder.

(a) $\frac{343\pi}{6\sqrt{3}}$

(b) $\frac{216\pi}{7\sqrt{3}}$

(c) $\frac{216\pi}{5\sqrt{3}}$

(d) $\frac{343\pi}{4\sqrt{3}}$

Q21. In a triangle ABC it is given that AD & BE cut each other at P. BP : PE : : 4 : 1 & AP : PD : : 5 : 2 then find AE : EC : : ? ?
(a) 4:3
(b) 7:5
(c) 6:5
(d) 9:5

Q22. Find the area of ΔBCD?
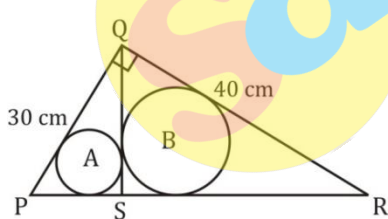

(a) 200
(b) 300
(c) 400
(d) 500

Q23. Sum of the roots of the quadratic equation $ax^2 + bx + c = 0$, is equal to sum of squares of their reciprocals, then $\frac{b^2}{ac} + \frac{bc}{a^2} =$
(a) 0
(b) -1
(c) 1
(d) 2

Q24. In the below given figure, PQR is a right angled triangle. QS is the altitude on hypotenuse PR. Circles are inscribed within the triangle PSQ and QSR. A and B are the centers of circle. What is the distance between A and B?

(a) 7
(b) $\sqrt{50}$
(c) $\sqrt{100}$
(d) $\sqrt{200}$

Q25. cot 123°. cot 133°. cot 137°. Cot 147° = ?
(a) –1
(b) tan 37°
(c) 0
(d) 1