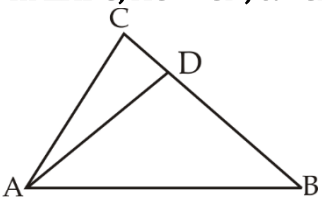
Quant Mega quiz for SSC CGL (Advance level)

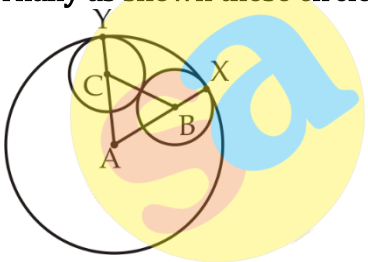
Q1. In ΔABC, AC = CD, &∠CAB - ∠ABC = 30°. Find ∠BAD.



(a) 15°
(b) 30°
(c) 10°
(d) 45°

Q2. An inverted cone shaped jar is used to measure the kerosene at a shop. The diameter and height of the cone are 24cm and 42 cm respectively.During a measurement he fill the conical jar only upto $5/6^{th}$ of the actual height. Then find the percentage profit made by the shopkeeper by selling the unit jar kerosene.
(a)42
(b)73
(c)50
(d)56

Q3. In fig circle with centre at B touches a bigger circle with centre A internally& also a circle with centre C externally as shown these circles are tangent to each other. If AB = 6, AC = 5 & BC = 9. Find AX = ?



(a) 10
(b) 15
(c) 5
(d) 7.5

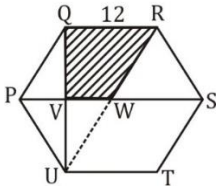
Q4 .$x = y\cos{}^{2\pi}/_{3} = z\cos{}^{4\pi}/_{3}$, then xy + yz + zx = ?
(a) −1
(b) 0
(c) 1
(d) 2

Q5. In a triangle ABC it was given that AB=16cm, AC=30cm and BC=

34 cm. If point D and E are the mid points of the sides AB and AC respectively also point F lies on line BC such that BF: FC = 3 : 4. Find the Area of ΔDEF (in cm^2)?

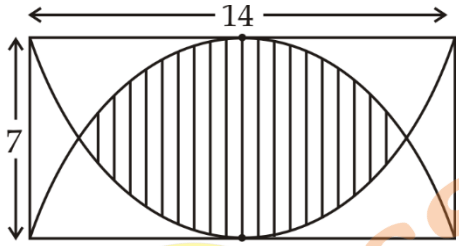
(a) 163/4
(b) 60
(c) 47
(d) 288/7
L1Difficulty 4
QTags Quantitive Aptitude

Q6. Find the area of the shaded region. Where PQRSTU is a regular hexagon of side 12, & W is its centroid.



(a) $25\sqrt{3}$
(b) $54\sqrt{3}$
(c) $17\sqrt{3}$
(d) $18\sqrt{3}$

Q7. Find the area of shaded region



With two semicircles of radius 7.

(a) 49 $\left(\frac{2\pi}{3}-\frac{\sqrt{3}}{2}\right)$
(b) 49 $\left(\frac{3\pi}{2}+\frac{\sqrt{3}}{2}\right)$
(c) 49 $\left(\frac{2\pi}{3}+\frac{\sqrt{3}}{2}\right)$
(d) 54 $\left(\frac{3\pi}{2}-\frac{\sqrt{3}}{2}\right)$

Q8. $\tan x = b/a$, then $\sqrt{\frac{a+b}{a-b}}+\sqrt{\frac{a-b}{a+b}}$ =?

(a) $\frac{2\sin x}{\sqrt{\sin 2x}}$
(b) $\frac{2\cos x}{\sqrt{\cos 2x}}$
(c) $\frac{2\cos x}{\sqrt{\sin 2x}}$
(d) $\frac{2\sin x}{\sqrt{\cos 2x}}$

Q9. In ΔPQR, if 3 sin P + 4 cos Q = 6 & 4 sin Q + 3 cos P = 1 then R = ?

(a) π/4
(b) 3π/4
(c) 7π/6
(d) π/6

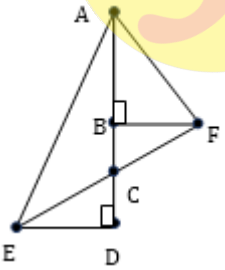
Q10. If cos A = m cos B, then $cot\frac{A+B}{2}$ = ?
(a) $\frac{m+1}{m-1}tan\frac{B+A}{2}$
(b) $\frac{m+1}{m-1}tan\frac{B-A}{2}$
(c) $\frac{m-1}{m+1}tan\frac{B-A}{2}$
(d) None of these

Q11.Find the value of sin 12°. sin 48°. sin 54° = ?
(a) 1/8
(b) 1/6
(c) 1/4
(d) 1/2

Q12. $\sqrt{2\sqrt{4\sqrt{8\sqrt{16}\ldots}}}$ **is equal to**
(a) 2
(b) 4
(c) 8
(d) 16

Q13. In ΔABC, AB = 6, BC = 8 & CA = 10. If I is the incentre of the Δ then find length of IA?
(a) 2
(b) $\sqrt{20}$
(c) $\sqrt{10}$
(d) 4

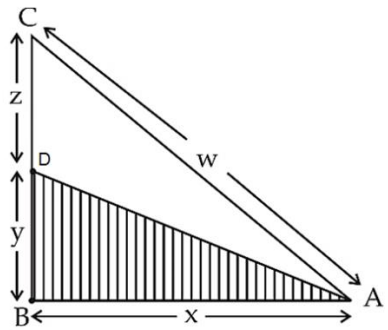
Q14. In fig CD = BF = 10 &∠CED = ∠BAF = 30°. Find BC = ?



(a) $\frac{10}{\sqrt{3}}$
(b) $\frac{\sqrt{3}}{20}$
(c) 10
(d) $10\sqrt{3}$

Q15. If shaded area is half the area of ΔABC which is right- angled at B.

Find AD =?



(a) $\frac{W}{2}$

(b) $\sqrt{2x^2 + z^2}$

(c) $\sqrt{w^2 - 3y^2}$

(d) $\sqrt{y^2 + z^2}$

Q16. $2^x = 3^y = 12^z$, if this equation is fulfilled for non-zero x, y, z then find $\frac{z(x+2y)}{xy}$

(a) 1

(b) 1/2

(c) 2

(d) None of these

Q17. $ab = a^b$ & $\frac{a}{b} = a^{3b}$. *If* a & b *are real* & $a > 1$ & $b \neq 0$ then, $b^{-a} = ?$

(a) 24

(b) 64

(c) $\frac{1}{16}$

(d) 16

Q18. If $2018^x + 2018^{-x} = 3$, then $\sqrt{\frac{2018^{6x} - 2018^{-6x}}{2018^x - 2018^{-x}}} = ?$

(a) 144

(b) 12

(c) 36

(d) 64

Q19. $(pqr)^{(pqr)^{(pqr)}} = x$

Given that p, q, r are positive real numbers that satisfy equations.

$p = q^r$, $q = r^p$, $r = p^q$, then find $x = ?$

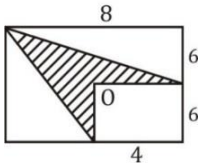
(a) 2

(b) 100

(c) 10

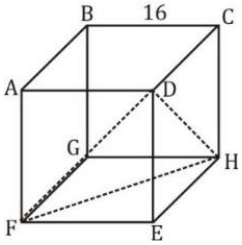
(d) 1

Q20. Find the area of the shaded region.



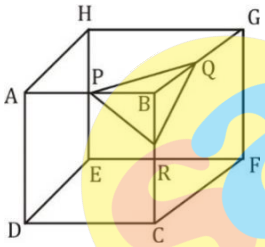
(a) 100
(b) 48
(c) 24
(d) 96

Q21 A cube of side 16 cm has been cut obliquely as shown in the diagram. Find the surface area of the DHFE pyramid.



(a)$128\left(3+\sqrt{3}\right)$
(b)$130\left(3+\sqrt{2}\right)$
(c)$192\left(3+\sqrt{3}\right)$
(d)$120\left(3+\sqrt{2}\right)$

Q22. Cube ABCDEFGH of side length 10 cm has been cut oblique as shown in the figure. Also P,Q,R are the mid point of the sides AB, BG and BC respectively. Find the area of the ΔPQR.



(a)$\frac{25}{2}$
(b)$\frac{25\sqrt{3}}{2}$
(c)$50\sqrt{3}$
(d) 49

Q23. If $A = 2^{5555}, B = 3^{3333}, C = 6^{2222}$ then which of the following is correct.
(a) C < B < A
(b) A < B < C
(c) A < C < B
(d) B < A < C

Q24. In ΔABC, AB = BC &∠ACB = 50°. D is a point on AC such that AD = BD. E is a point on BD such that BE = CD. Find ∠EAD

(a) 30°
(b) 20°
(c) 50°
(d) 25°

Q25. If a cos 2θ + b sin 2θ = c has α & β as its solutions find tan α + tan β = ?

(a) $\frac{2b}{c+a}$
(b) $\frac{2c}{b+a}$
(c) $\frac{2a}{b+c}$
(d) None of these