Quantitative Aptitude Sunday Mega Quiz for SSC CGL

Q1. If $ab + bc + ca = abc$, then find value of

$$\frac{a+b}{ab(c-1)} + \frac{b+c}{bc(a-1)} + \frac{c+a}{ca(b-1)}$$

(a) $-\frac{3}{2}$
(b) 1/2
(c) 0
(d) 1

Q2. If $xy = r$, $xz = r^2$, $yz = r^3$, $x+y+z = 14$ and $x^2 + y^2 + z^2 = 28$ then find z/y?
(a) 3
(b) 4
(c) 7/3
(d) 14/3

Q3. If $x = \sqrt{\frac{\sqrt{10}+1}{\sqrt{10}-1}}$, then find $9x^2 - 6x - 6 = ?$
(a) 3
(b) 0
(c) 1
(d) 4

Q4. If $(x+y)^2 - z^2 = 8$, $(y+z)^2 - x^2 = 16$, $(z+x)^2 - y^2 = 42$, then find the value of $(x+y+z)$
(a) 8
(b) ± 8
(c) 64
(d) 56

Q5. The value of $x + \sqrt{x^2 + \sqrt{x^4 + \sqrt{x^8 + \sqrt{x^{16} + \cdots}}}}$

(a) $x\left(\frac{\sqrt{5}+2}{2}\right)$
(b) $x\left(\frac{3+\sqrt{5}}{2}\right)$
(c) $\frac{x}{1+\sqrt{x}}$
(d) $x\left(\frac{\sqrt{5}+1}{2}\right)$

Q6. $\frac{x^2-yz}{x^2+yz}+\frac{y^2-xz}{y^2+xz}+\frac{z^2-xy}{z^2+xy}=1$, Then $\frac{x^2}{x^2+yz}+\frac{y^2}{y^2+xz}+\frac{z^2}{z^2+xy}=?$

(a) 1
(b) 2
(c) 3
(d) -2

Q7. $x^3+y^3+z^3=13, x+y+z=1$ & $xyz=2$, then $xy+yz+zx=?$

(a) –1
(b) –2
(c) 3
(d) –3

Q8. If $(x+1)$ and $(x-2)$ are factors of x^3+ax^2-bx-6, then find the values of a and b respectively.

(a) 2, 3
(b) 3, 5
(c) 5, 3
(d) 2, 5

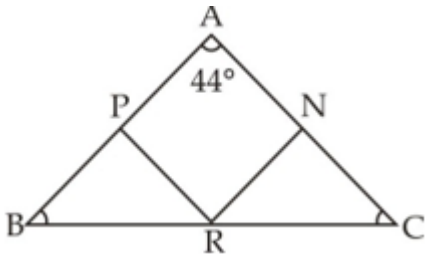
Q9. Find $\frac{x^4+y^4}{x^2+y^2-xy\sqrt{2}}$, if $p=x^2+y^2$ and $q=xy\sqrt{2}$

(a) p+q
(b) p – 2q
(c) p – q
(d) p+2q

Q10. If $(x+y)^2=23+z^2$, $(y+z)^2=14+x^2$ and $(z+x)^2=12+y^2$, find $x+y+z=?$

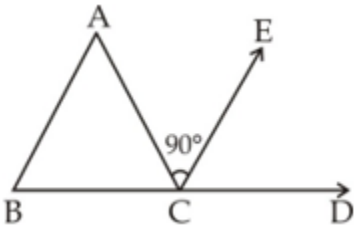
(a) ±6
(b) ±9
(c) ±7
(d) ±8

Q11. If $\angle A=44°$, BP = BR and CN = RC then $\angle PRN=?$



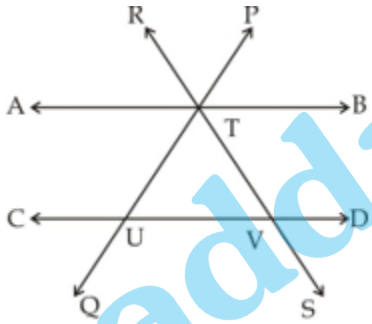
(a) 58°
(b) 78°
(c) 68°
(d) 66°

Q12. In the given figure, AC ⊥ CE and ∠A : ∠B : ∠C = 3 : 2 : 1, find the value of ∠ECD :



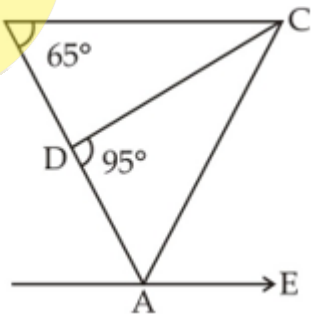
(a) 50°
(b) 45°
(c) 55°
(d) 60°

Q13. In the given figure, If AB || CD, ∠PTB = 55° and ∠DVS = 45°, then what is the sum of the measures of ∠CUQ and∠RTP?



(a) 180°
(b) 135°
(c) 110°
(d) 100°

Q14. In the figure given below, ABC is a triangle. BC is parallel to AE. If BC = AC, then what is the value of ∠CAE ?



(a) 20°
(b) 30°
(c) 40°
(d) 50°

Q15. A quadrilateral ABCD circumscribes a circle and AB = 6cm, CD= 5cm and AD= 7cm. The length of side BC is

(a) 4 cm
(b) 5 cm
(c) 3 cm
(d) 6 cm

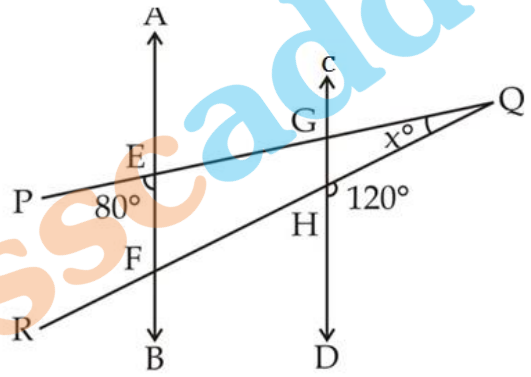
Q16. If the chord of a circle is equal to the radius of the circle, then the angle subtended by the chord on centre is

(a) 150°
(b) 60°
(c) 120°
(d) 30°

Q17. Diagonals of a || gm are 8 m and 6 m respectively. If one of side is 5 m, then the area of || gm is :

(a) 18 m^2
(b) 30 m^2
(c) 24 m^2
(d) 48 m^2

Q18. In the given figure AB || CD, given that ∠PEB = 80°, ∠QHD = 120° and ∠PQR =X°, find the value of x :



(a) 40°
(b) 20°
(c) 100°
(d) 30°

Q19. Given a ΔPQR with vertices P (2, 3) , Q (-3, 7) and R (-1, -3) . The equation of median PM is .

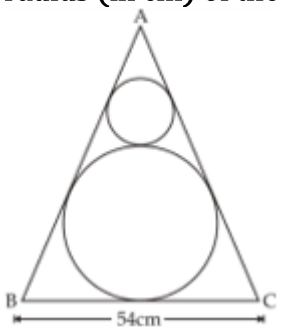
(a) x- y + 10 = 0
(b) x- 4y – 10 = 0
(c) x- 4y+ 10 = 0
(d) None of these

Q20. Find the area of quadrilateral formed by straight lines x = 1, x = 3, y = 2 and x = y+ 3.

(a) 6 sq. units
(b) 12 sq. units
(c) 3 sq. units
(d) None of these

Q21. There are five concentric circles that are spaced equally from each other by 2.75 cms. The innermost circle has a square of side √50 cm inscribed in it. If a square need to be inscribed in the outermost circle, what will be the length of its sides (in cm) ?
(a) 32
(b) 32√2
(c) 16
(d) 16√2

Q22. If ΔABC is an equilateral, then find the radius (in cm) of the smaller circle.

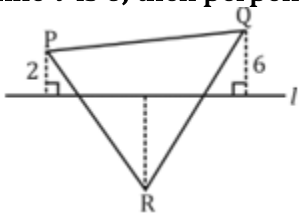


(a) 18
(b) 3
(c) 3√3
(d) 18√3

Q23. A ΔABC has sides, AB, BC & CA that measure 13, 14 and 15 units respectively. A line EF ⊥ to the side of measure 14 units divides the interior of the ΔABC into two regions of equal area as shown in figure. Find the length of EF?
(a) 8√7 units
(b) 32 units
(c) 4√7 units
(d) 28 units

Q24. Medians of a ΔABC are with lengths 9, 12 & 15cm respectively. Then area of the Δ will be (in cm^3)
(a) 56
(b) 72
(c) 84
(d) 38

Q25. In the given figure in ΔPQR line 'ℓ' passes through the centroid of ΔPQR. If perpendicular distance between P & line ℓ is 2 & between Q & line ℓ is 6, then perpendicular distance between R & line ℓ will be?



(a) 8
(b) 6
(c) 1.97
(d) 8.43