# Quant Mega Quiz for SSC CHSL

**Q1.**

If $x^2 - 3x + 1 = 0$, then the value of $x^3 + \frac{1}{x^3}$ is

(a) 9
(b) 18
(c) 27
(d) 1

**Q2.**

If $x + \frac{1}{4x} = \frac{3}{2}$, find the value of $8x^3 + \frac{1}{8x^3}$.

(a) 18
(b) 36
(c) 24
(d) 16

**Q3.**

If $\frac{1}{x+y} = \frac{1}{x} + \frac{1}{y}$ $(x \neq 0, y \neq 0, x \neq y)$ then the value of $x^3 - y^3$ is

(a) 0
(b) 1
(c) –1
(d) 2

**Q4.**

If x = a (b – c), y = b (c – a) and z = c (a – b),
then $\left(\frac{x}{a}\right)^3 + \left(\frac{y}{b}\right)^3 + \left(\frac{z}{c}\right)^3 = ?$

(a) $\frac{xyz}{3abc}$
(b) 3xyzabc
(c) $\frac{3xyz}{abc}$
(d) $\frac{xyz}{abc}$

**Q5.**

If xy (x + y) = 1, then the value of $\frac{1}{x^3y^3} - x^3 - y^3$ is:

(a) 0
(b) 1
(c) 3
(d) –2

**Q6.**

If $x^4 + \frac{1}{x^4} = 119$ and x > 1, then the value of $x^3 + \frac{1}{x^3}$ is

(a) $6\sqrt{13}$
(b) $8\sqrt{13}$
(c) $13\sqrt{13}$
(d) $10\sqrt{13}$

**Q7.**

If $3x + \frac{1}{2x} = 5$, then the value of $8x^3 + \frac{1}{27x^3}$ is:

(a) $118\frac{1}{2}$
(b) $30\frac{10}{27}$
(c) 0
(d) 1

**Q8. If x + y = z, then the expression $x^3 + y^3 - z^3 + 3xyz$ will be equal to:**

(a) 0
(b) 3xyz
(c) –3xyz
(d) z3

**Q9. If the sum of a/b and its reciprocal is 1 and $a \neq 0, b \neq 0$, then the value of $a^3 + b^3$ is**

(a) 2
(b) –1
(c) 0
(d) 1

**Q10.**

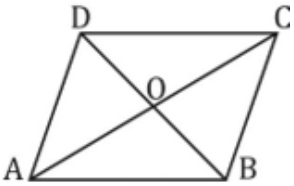
If $x = 2 - 2^{1/3} + 2^{2/3}$ then the value of $x^3 - 6x^2 + 18x + 18$ is

(a) 22
(b) 33
(c) 40
(d) 45

**Q11. ABCD is a || gm, AB = 14 cm, BC = 18 cm and AC = 16 cm. Find the length of the other diagonal?**

(a) 30 cm
(b) 32 cm
(c) 26 cm
(d) 28 cm

**Q12. In the given figure, ABCD is a || gm in which diagonals AC and BD intersect at O. If ar(|| gm ABCD) is 56 $cm^2$, then the ar(ΔOAB)=?**

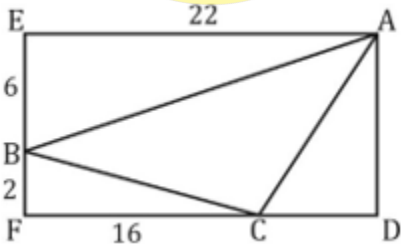



(a) 28 $cm^2$
(b) 22 $cm^2$
(c) 42 $cm^2$
(d) 14 $cm^2$

**Q13. ABCD is a parallelogram AB is divided at P and CD at Q so that AP : PB = 3 : 2 and CQ : QD = 4 : 1 if PQ meets AC at R then AR = ?**

(a) $\frac{2}{7}$ AC
(b) $\frac{3}{7}$ AC
(c) $\frac{4}{7}$ AC
(d) $\frac{5}{7}$ AC

**Q14. In the given figure EADF is a rectangle and ABC is a triangle whose vertices lie on the sides of ▭EADF. AE = 22, BE = 6, CF = 16 and BF = 2. Find the length of the line joining the mid-point of the sides AB and BC.**




(a) 4
(b) 5
(c) 3.5
(d) $4\sqrt{2}$

**Q15. If the perimeter of a rectangle is P unit and its diagonal is d unit, then the difference between the length and width of the rectangle is–**

(a) $\sqrt{\frac{8d^2-p^2}{4}}$

(b) $\sqrt{\frac{8d^2-p^2}{2}}$

(c) $\sqrt{\frac{8d^2+p^2}{2}}$

(d) $\sqrt{\frac{8d^2+p^2}{4}}$

**Q16. If l, b and p be the length, breadth and perimeter of a rectangle and b, l and p are in GP (in order) then l/b is–**

(a) $2:1$

(b) $(\sqrt{3}-1):1$

(c) $(\sqrt{3}+1):1$

(d) $2:\sqrt{3}$

**Q17. If the perimeter of rhombus is 150 cm and length of one diagonal is 50 cm. Then find the area of rhombus.**

(a) $625\sqrt{5}$ cm$^2$

(b) $625\sqrt{3}$ cm$^2$

(c) $625\sqrt{7}$ cm$^2$

(d) $625\sqrt{8}$ cm$^2$

**Q18. A square and a rhombus have the same base and the rhombus is inclined at 30°. What is the ratio of the area of the square to the area of the rhombus:**

(a) $\sqrt{2}:1$

(b) $2:1$

(c) $1:1$

(d) $2:\sqrt{3}$

**Q19. In a trapezium, the two nonparallel sides are equal in length, each being of 5 cm. The parallel sides are at a distance of 3 cm. If the smaller side of the parallel sides is of length 2 cm., then the sum of the diagonal of the trapezium is:**

(a) $7\sqrt{5}$ cm

(b) $6\sqrt{5}$ cm

(c) $3\sqrt{5}$ cm

(d) $4\sqrt{5}$ cm

**Q20. ABCD is a trapezium with parallel sides AB = 2 cm and DC = 3 cm E and F are the mid-points of the non-parallel sides. The ratio of area of ABFE to the area of EFCD is:**

(a) 9 : 11

(b) 9 : 13

(c) 9 : 16

(d) 9 : 17

**Q21. The side AB of a parallelogram ABCD is produced to E in such way that BE = AB, DE intersects BC at Q. The point Q divides BC in the ratio**

(a) 1 : 2

(b) 1 : 1

(c) 2 : 3

(d) 2 : 1

**Q22. ABCD is a rhombus. A straight line through C cuts AD produced at P and AB produced at Q. If DP = 1/2 AB, then the ratio of the length of BQ and AB is**

(a) 2 : 1

(b) 1 : 2

(c) 1 : 1

(d) 3 : 1

**Q23. In a quadrilateral ABCD, with unequal sides if the diagonals AC and BD intersect at right angles then**

(a) $AB^2 + BC^2 = CD^2 + DA^2$

(b) $AB^2 + CD^2 = BC^2 + DA^2$

(c) $AB^2 + AD^2 = BC^2 + CD^2$

(d) $AB^2 + BC^2 = 2(CD^2 + DA^2)$

**Q24. The ratio of the angles ∠A and ∠B of a non-square rhombus ABCD is 4 : 5, then the value of ∠C is:**

(a) 50°

(b) 45°

(c) 80°

(d) 95°

**Q25. ABCD is a rhombus whose side AB = 4 cm and ∠ABC = 120°, then the length of diagonal BD is equal to:**

(a) 1 cm

(b) 2 cm

(c) 3 cm

(d) 4 cm

Q26. The tangents at two points A and B on the circle with centre O intersects at P. If in quadrilateral PAOB, ∠AOB : ∠APB = 5 : 1, then measure of ∠APB is:

(a) 30°

(b) 60°

(c) 45°

(d) 15°

Q27. ABCD is a trapezium whose side AD is parallel to BC, Diagonals AC and BD intersect at O. If AO = 3, CO = x – 3, BO = 3x – 19 and DO = x – 5, the value(s) of x will be:

(a) 7, 6

(b) 12, 6

(c) 7, 10

(d) 8, 9

Q28. Q is a point in the interior of a rectangle ABCD, if QA = 3 cm, QB = 4 cm and QC = 5 cm then the length of QD (in cm) is

(a) $3\sqrt{2}$

(b) $5\sqrt{2}$

(c) $\sqrt{34}$

(d) $\sqrt{41}$

Q29. ABCD is a rectangle where the ratio of the length of AB and BC is 3 : 2. If P is the mid-point of AB, then the value of sin ∠CPB is

(a) 3/5

(b) 2/5

(c) 3/4

(d) 4/5

Q30. Inside a square ABCD, BEC is an equilateral triangle. If CE and BD intersect at O, then ∠BOC is

(a) 60°

(b) 75°

(c) 90°

(d) 120°