

Quant Mega Quiz for SSC CGL Tier - 2

Q1. There is a profit of 20% on the cost price of an article. The % of profit, when calculated on selling price is

- (a) $16\frac{2}{3}\%$
- (b) 20%
- (c) $33\frac{1}{3}\%$
- (d) None of these

Q2. By selling an article for Rs. 102, there is a loss of 15%, when the article is sold for Rs. 134. 40, the net result in the transaction is

- (a) 12% gain
- (b) 12% loss
- (c) 10% loss
- (d) 15% gain

Q3. Two toys are sold at 504 each. One toy brings the dealer a gain of 12% and the other a loss of 4%. The gain or loss per cent by selling both the toys is

- (a) $3\frac{5}{13}\%$ Profit
- (b) $4\frac{5}{13}\%$ Profit
- (c) $5\frac{1}{13}\%$ Profit
- (d) $2\frac{3}{13}\%$ loss

Q4. A sold a horse to B for Rs. 4800 by losing 20%. B sells it to C at a price which would have given A a profit of 15%. B's gain is

- (a) Rs. 1800
- (b) Rs. 1900
- (c) Rs. 2000
- (d) Rs. 2100

Q5. If each side of a cube is increased by 10% the volume of the cube will increase by

- (a) 30%
- (b) 10%
- (c) 33.1%
- (d) 25%



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Q6. A reduction of 21% in the price of an item enables a person to buy 3 kg more for Rs. 100. The reduced price of item per kg is

- (a) Rs. 5.50
- (b) Rs. 7.50
- (c) Rs. 10.50
- (d) Rs. 7.00

Q7. The number that is to be added to 10% of 320 to have the sum as 30% of 230 is

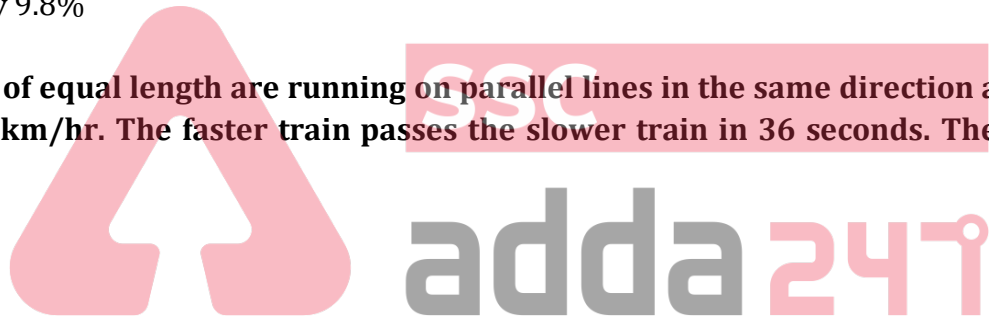
- (a) 37
- (b) 32
- (c) 23
- (d) 73

Q8. The strength of a school increases and decreases in every alternate year by 10%. It started with increase in 2000. Then the strength of the school in 2003 as compared to that in 2000 was

- (a) increased by 8.9%
- (b) decreased by 8.9%
- (c) increased by 9.8%
- (d) decreased by 9.8%

Q9. Two trains of equal length are running on parallel lines in the same direction at the rate of 46 km/hr and 36 km/hr. The faster train passes the slower train in 36 seconds. The length of each train is

- (a) 50 m
- (b) 72 m
- (c) 80 m
- (d) 82 m



Q10. A car driver leaves Bangalore at 8.30 A.M. and expects to reach a place 300 km from Bangalore at 12.30 P.M. At 10.30 he finds that he has covered only 40% of the distance. By how much he has to increase the speed of the car in order to keep up his schedule?

- (a) 45 km/hr
- (b) 40 km/hr
- (c) 35 km/hr
- (d) 30 km/hr

Q11. Average of n numbers is a. The first number is increased by 2, second one is increased by 4, the third one is increased by 8 and so on. The average of the new number is

- (a) $a + 2 \frac{2^n - 1}{n}$
- (b) $a + \frac{2^n - 1}{n}$
- (c) $a + 2 \frac{2^n + 1}{n}$
- (d) $a + \frac{2^{n+1} - 1}{n}$

Q12. If $x = a \sin \theta - b \cos \theta$, $y = a \cos \theta + b \sin \theta$, then which of the following is true?

- (a) $x^2 + y^2 = a^2 + b^2$
- (b) $\frac{x^2}{y^2} + \frac{a^2}{b^2} = 1$
- (c) $x^2 + y^2 = a^2 - b^2$
- (d) $\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$

Q13. Let $x = \frac{\sqrt{13} + \sqrt{11}}{\sqrt{13} - \sqrt{11}}$ and $y = \frac{1}{x}$, then the value of $3x^2 - 5xy + 3y^2$ is

- (a) 1717
- (b) 1771
- (c) 1171
- (d) 1177

Q14. If 64 buckets of water are removed from a cubical shaped water tank completely filled with water, $\frac{1}{3}$ of the tank remains filled with water. The length of each side of the tank is 1.2 m. Assuming that all buckets are of the same measures then the volume (in litres) of water contained by each bucket is

- (a) 16
- (b) 18
- (c) 12
- (d) 15

Q15. In trapezium ABCD, $AB \parallel CD$ and $AB = 2CD$. Its diagonals intersect at O. If the area of $\Delta AOB = 84 \text{ cm}^2$, then the area of ΔCOD is equal to

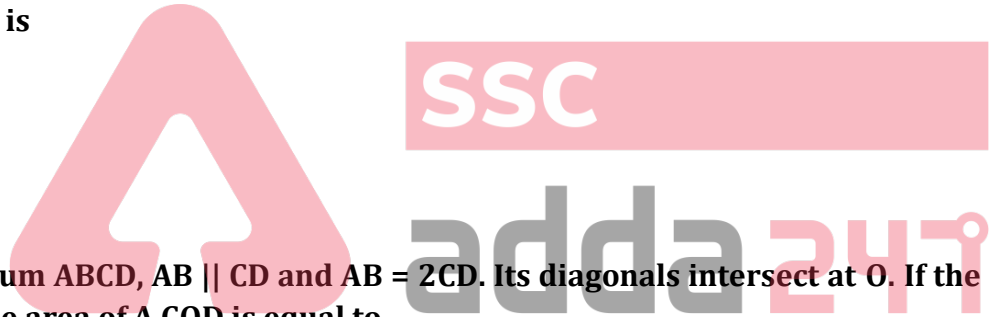
- (a) 42 cm^2
- (b) 21 cm^2
- (c) 72 cm^2
- (d) 26 cm^2

Q16. Water tax is increased by 20% but its consumption is decreased by 20%. Then the increase of decrease in the expenditure of the money is

- (a) 5% decrease
- (b) 4% decrease
- (c) No change
- (d) 4% increase

Q17. A number when divided by 361 gives a remainder 47. If the same number is divided by 19, the remainder obtained is

- (a) 1
- (b) 3
- (c) 9
- (d) 8



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Q18.

If $\left(\frac{p^{-1}q^2}{p^3q^{-2}} \div \frac{p^5q^{-3}}{p^{-3}q^3}\right)^{\frac{1}{3}} = p^a q^b$. then the value of $a + b$,

where p and q are different positive primes, is

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

Q19. In triangle ABC , $DE \parallel BC$ where D is a point on AB and E is a point on AC . DE divides the area of ΔABC into two equal parts. Then $DB : AB$ is equal to

- (a) $(\sqrt{2} + 1) : \sqrt{2}$
- (b) $\sqrt{2} : (\sqrt{2} + 1)$
- (c) $\sqrt{2} : (\sqrt{2} - 1)$
- (d) $(\sqrt{2} - 1) : \sqrt{2}$

Q20. A and B have their monthly incomes in the ratio $8 : 5$. While their monthly expenditures are in the ratio $5 : 3$. If they have saved Rs 12,000 and Rs 10,000 monthly respectively, then the difference in their monthly income is

- (a) Rs 42,000
- (b) Rs 44,000
- (c) Rs 46,000
- (d) Rs 52,000

Q21. A square and a regular hexagon are drawn such that all the vertices of the square and the hexagon are on a circle of radius r cm. The ratio of area of the square and the hexagon is

- (a) $3 : 4$
- (b) $4 : 3\sqrt{3}$
- (c) $\sqrt{2} : \sqrt{3}$
- (d) $1 : \sqrt{2}$

Q22. A solid cylinder has the total surface area 231 sq. cm. If its curved surface area is $2/3$ of the total surface area, then the volume of the cylinder is

- (a) 154 cu. cm
- (b) 308 cu. cm
- (c) 269.5 cu. cm
- (d) 370 cu. cm

Q23. The lateral surface area of frustum of a right circular cone, if the area of its base is $16n \text{ cm}^2$ and the diameter of circular upper surface is 4 cm and slant height 6 cm, will be

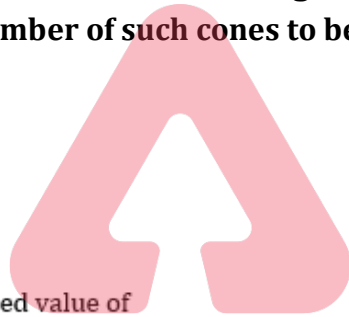
- (a) $30n \text{ cm}^2$
- (b) $48n \text{ cm}^2$
- (c) $36n \text{ cm}^2$
- (d) $60n \text{ cm}^2$

Q24. The diameter of a sphere is twice the diameter of another sphere. The surface area of the first sphere is equal to the volume of the second sphere. The magnitude of the radius of the first sphere is

- (a) 12
- (b) 24
- (c) 16
- (d) 48

Q25. A right circular cylinder having diameter 21 cm & height 38 cm is full of ice cream. The ice cream is to be filled in cones of height 12 cm and diameter 7 cm having a hemispherical shape on the top. The number of such cones to be filled with ice cream is

- (a) 54
- (b) 44
- (c) 36
- (d) 24



Q26. The simplified value of

$$\left(1 - \frac{2xy}{x^2 + y^2}\right) \div \left(\frac{x^3 - y^3}{x - y} - 3xy\right) \text{ is}$$

- (a) $\frac{1}{x^2 - y^2}$
- (b) $\frac{1}{x^2 + y^2}$
- (c) $\frac{1}{x - y}$
- (d) $\frac{1}{x + y}$

Q27. If $a + b + c = 0$ then the value of

$$\frac{1}{(a + b)(b + c)} + \frac{1}{(b + c)(c + a)} + \frac{1}{(c + a)(a + b)} \text{ is}$$

- (a) 0
- (b) 1
- (c) 3
- (d) 2

Q28. If $x^2 + y^2 + 2x + 1 = 0$, then the value of $x^{31} + y^{35}$ is

- (a) -1
- (b) 0
- (c) 1
- (d) 2

Q29. If $x = \frac{\sqrt{5}+1}{\sqrt{5}-1}$ and $y = \frac{\sqrt{5}-1}{\sqrt{5}+1}$, the value of $\frac{x^2+xy+y^2}{x^2-xy+y^2}$ is

- (a) $\frac{3}{4}$
- (b) $\frac{4}{3}$
- (c) $\frac{3}{5}$
- (d) $\frac{5}{3}$

Q30. If $\left(x - \frac{1}{x}\right)^2 = 3$, then the value of $x^6 + \frac{1}{x^6}$ equals

- (a) 90
- (b) 100
- (c) 110
- (d) 120

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