Quant Mega Quiz for SSC Tier-1

Q1. A, B and C invested different amounts in a business for 4 months, 6 months and 12 months respectively. B's investment was 2 times A's investment and C's investment was 2.5 times A's investment. If at the end of the year, they together received an amount of Rs 5,819/- as total profit, what was B's share in the total profit.

(a) Rs 1,404/-
(b) Rs 1,428/-
(c) Rs 1,518/-
(d) Rs 1,536/-

Q2. The perimeter of a square is twice the perimeter of a rectangle. If the perimeter of the square is 56 cm and the length of the rectangle is 9 cm, then what is the difference between the breadth of the rectangle and the side of the square.

(a) 7 cm
(b) 9 cm
(c) 11 cm
(d) 5 cm

Q3. The compound interest accrued in 2 years on a principal of Rs 16,250/- is Rs 5,616/- What is the rate of interest p.c.p.a.?

(a) 22%
(b) 16%
(c) 18%
(d) 15%

Q4. The respective ratio of milk to water in the mixture is 4 : 3 respective. If 6 litre of water is added to this mixture, the respective ratio of milk to water becomes 8 : 7. What is the quantity of milk in the original mixture?

(a) 96 litre
(b) 36 litre
(c) 84 litre
(d) 48 litre

Q5. The diameter of a circle is equal to the perimeter of a square whose area is 3136 cm^2. What is the circumference of the circle?

(a) 352 cm
(b) 704 cm
(c) 39424 cm
(d) 1024 cm

Q6. A certain amount was to be distributed among A, B and C in the ratio 2 : 3 : 4 respectively, but was erroneously distributed in the ratio 7 : 2 : 5 respectively. As a result of this, B got Rs 40/- less. What was the amount?
(a) Rs 210/-
(b) Rs 270/-
(c) Rs 230/-
(d) Rs 280/-

Q7. The fare of a bus is Rs x for the first five kilometers and Rs 13 per kilometre thereafter. If a passenger pays Rs 2,402/- for a journey of 187 kilometres, what is the value of x?
(a) Rs 29/-
(b) Rs 39/-
(c) Rs 36/-
(d) Rs 31/-

Q8. If the perimeter of a semi-circle is 36 cm, then its area is: (use $\pi = 22/7$)
(a) 154 sq. cm
(b) 206 sq. cm
(c) 77 sq. cm
(d) None of these

Q9. A juice center requires 35 dozen guavas for 28 days. How many dozen guavas will it require for 36 days?
(a) 50
(b) 52
(c) 40
(d) 45

Q10. The sum of digits of a two-digit number is 12 and the difference between the two-digits of the two-digit number is 6. What is the two-digit number?
(a) 39
(b) 66
(c) 84
(d) 75

Q11. In ΔABC, DE||AC. Where D and E are two points lying on AB and BC respectively. If AB = 5 cm and AD = 3 cm, then BE : EC is.
(a) 2 : 3
(b) 3 : 2
(c) 5 : 3
(d) 3 : 5

Q12. PT is a tangent to a circle with center O and radius 6 cm. If PT is 8 cm then length of OP is
(a) 10 cm
(b) 12 cm
(c) 16 cm
(d) 9 cm

Q13. Three medians AD, BE and CF of ΔABC intersect at G; area of ΔABC is 36 sq cm. Then the area of ΔCGE is
(a) 12 sq cm
(b) 6 sq cm
(c) 9 sq cm
(d) 18 sq cm

Q14. AD is the Median of ΔABC. If O is the centroid and AO = 10 cm then OD is
(a) 5 cm
(b) 20 cm
(c) 10 cm
(d) 30 cm

Q15. Incentre of ΔABC is I. ∠ABC = 90° and ∠ACB = 70°. ∠BIC is?
(a) 115°
(b) 100°
(c) 110°
(d) 105°

Q16. The length of the two adjacent sides of a rectangle inscribed in a circle are 5 cm and 12 cm respectively. Then the radius of the circle will be?
(a) 6 cm
(b) 6.5 cm
(c) 8 cm
(d) 8.5 cm

Q17. In an isosceles ΔABC, AD is the median to the unequal side meeting BC at D. DP is the angle bisector of ∠ADB and PQ is drawn parallel to BC meeting AC at Q. Then the measure of ∠PDQ is?
(a) 130°
(b) 90°
(c) 180°
(d) 45°

Q18. The students in three classes are in the ratio 2 : 3 : 5. If 40 students are increased in each class, the ratio changes to 4 : 5 : 7 originally the total number of students was
(a) 100
(b) 180
(c) 200
(d) 400

Q19. A number is increased by 20% and then it is decreased by 10%. Find the net increase or decrease percent.

(a) 10% increase
(b) 10% decrease
(c) 8% increase
(d) 8% decrease

Q20. A chord of length 16 cm is drawn in a circle of radius 10 cm. The distance of the chord from the centre of the circle is

(a) 8 cm
(b) 6 cm
(c) 4 cm
(d) 12 cm

Q21.

If $\sec^2\theta + \tan^2\theta = \sqrt{3}$,
then the value of $\sec^4\theta - \tan^4\theta$ is

(a) $1/\sqrt{3}$
(b) 1
(c) $\sqrt{3}$
(d) 0

Q22. If in a triangle ABC, sin A = cos B then the value of cos C is

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

Q23. If $\sin\theta \times \cos\theta = 1/2$. The value of $\sin\theta - \cos\theta$ is where $0° < \theta < 90°$

(a) 0
(b) $\sqrt{2}$
(c) 2
(d) 1

Q24. The value of $\cos^2 20° + \cos^2 70°$

(a) $\sqrt{2}$
(b) 1
(c) $1/3$
(d) 2

Q25.

The value of $\frac{\sin\theta}{1+\cos\theta}+\frac{\sin\theta}{1-\cos\theta}$ is

(a) 2 sin θ
(b) 2 cos θ
(c) 2 sec θ
(d) 2 cosec θ

Q26.

If $\tan\theta=\frac{8}{15}$,
the value of $\frac{\sqrt{1-\sin\theta}}{\sqrt{1+\sin\theta}}$ is

(a) 1/5
(b) 2/5
(c) 3/5
(d) 0

Q27.

If $\frac{\cos\theta}{1-\sin\theta}+\frac{\cos\theta}{1+\sin\theta}=4$,
then the value of θ $(0<\theta<90°)$ is

(a) 60°
(b) 45°
(c) 30°
(d) 35°

Q28. If sec 15 θ = cosec 15 θ $(0°<\theta<10°)$ then the value of θ is

(a) 9°
(b) 5°
(c) 8°
(d) 3°

Q29. If tan θ = tan 30°. tan 60° and θ is an acute angle, then 2 θ is equal to

(a) 30°
(b) 45°
(c) 90°
(d) 0°

Q30. If $x^2 = \sin^2 30° + 4\cot^2 45° - \sec^2 60°$, then the value of x $(x>0)$ is

(a) −1/2
(b) 1
(c) 0
(d) 1/2