8th All India RPS OLYMPIAD

Online & Offline Mega Event

QUESTION PAPER (PHASE – 1)

CLASS- VII

RPS MATHS LEAGUE

Q1. The number for the number name 'five crore five lakh six thousand seventy' is

(A) 5,50,06,070 (B) 55,06,700

(C) 5,05,06,070 (D) None of these

Q2. How many zeroes are there in one lakh?

(A) 4 (B) 5 (C) 6 (D) 7

Q3. Which calculator uses only the +1000 button?

(A) Tedious Tens (B) Thoughtful Thousands

(C) Creative Chitti (D) Systematic Sippy

Q4. If 250 babies are born every minute across the world, then the number of babies born in one hour is

(A) 15000 (B) 150000 (C) 1500 (D) 150

Q5. If a single sheet of paper weight 6 grams, then the weight of 500 sheets is

(A) 2 kg (B) 3 kg (C) 4 kg (D) 2.5 kg

Q6. The value of the expression 100 - (60 + 30) is

(A) 20 (B) 10 (C) 110 (D) None of these

Q7. 120 - 18 + 12 - 10 can be written using brackets as

(A) 120 - (18 + 12 + 10) (B) 120 + (18 - 12 - 10)

(C) 120 - (18 + 12 - 10) (D) None of the above

Q8. Which of the following is equal to (7 × 3) - (7 × 2)?

(A) 7 × (3 + 2) (B) 7 × (3 - 2)

(C) (7 + 3) × 2 (D) (7 - 3) × 2

Q9. Which expression represents '7 less than three times a number x'?

(A) 3x - 7 (B) 3x + 7 (C) 21x (D) None of these

Q10. Find the value of 2(12 + 8) ÷ 4

(A) 8 (B) 10 (C) 12 (D) 20

Q11. If a = 5 and b = 3, find the value of $2a^2 + 3b$

(A) 29 (B) 59 (C) 41 (D) 34

Q12. Which of the following is a point that lies on the right side of the number line?

(A) -5 (B) -2 (C) 2 (D) 0

Q13. Distance between points -2 and 3 on a number line is

(A) 2 units (B) 8 units (C) 5 units (D) 3 units

Q14. A fruit vendor has 1.012 kg of oranges out of which 0.250 kg were rotten. The weight of fresh oranges is

(A) 5.26 kg (B) 0.440 kg

(C) 0.762 kg (D) 7.62 kg

Q15. Median of first 10 natural numbers is

(A) 5 (B) 5.5 (C) 6 (D) 8

Q16. Lowest form of decimal 0.005 is

(A) $\frac{50}{1000}$ (B) $\frac{1}{200}$ (C) $\frac{1}{100}$ (D) $\frac{3}{5}$

Q17. Which algebraic expression represents the perimeter of a square of side x cm?

(A) 4x (B) 2x + 3x (C) $4x^2$ (D) x + 4

Q18. A number y is multiplied by 4, and then 9 is subtracted from it. Which expression represents this?

(A) 4y + 9 (B) 9 - 4y (C) 4y - 9 (D) 4y × 9

Q19. Two lines in the same plane that never meet are called

(A) intersecting lines (B) parallel lines

(C) perpendicular lines (D) curved lines

Q20. The sum of two odd numbers is always

(A) odd (B) even (C) prime (D) zero

Q21. What is the product of an even number and an odd number?

(A) Always odd (B) Always even

(C) Always prime (D) Cannot be determined

Q22. Which of the following expressions always gives an odd number, where n is an integer?

(A) 2n (B) 2n + 1 (C) 2n - 2 (D) 3n + 1

Q23. The parity of the expression 3n + 2, when n = 2 is

(A) even (B) odd

(C) sometimes even, sometimes odd (D) None of the above

Q24. We are making a magic square using the numbers 1-9, what will be the magic sum?

(A) 9 (B) 18 (C) 15 (D) 20

Q25. If a, b and c are three sides of a triangle, then

(A) $a + b = c$ (B) $a + b < c$

(C) $a + b > c$ (D) $a - b > c$

Q26. If the exterior angle of a triangle is 130°, then sum of two interior angles opposite to the exterior angle of a triangle is equal to

(A) 50° (B) 60° (C) 180° (D) 130°

Q27. Manish takes 26 hours to complete the whole work. If he works $3\frac{1}{4}$ hours daily, in how many days he will finish the work?

(A) 9 days (B) 6 days (C) 7 days (D) 8 days

Q28. If $\frac{5}{7}$ of a number is 15, the number is

(A) 12 (B) 15 (C) 21 (D) 25

Q29. If a rectangular field is $16\frac{1}{3}$ m long and $10\frac{2}{5}$ m wide, then the area of the field is

(A) $169\frac{13}{15}$ m² (B) $191\frac{12}{17}$ m²

(C) $171\frac{12}{17}$ m² (D) $129\frac{13}{15}$ m²

Q30. If $\frac{3}{4} \div y = \frac{1}{8}$ then the value of y is

(A) 6 (B) $\frac{1}{8}$ (C) $\frac{1}{3}$ (D) $\frac{2}{3}$

Q31. By which of the following condition can two triangles not be proved congruent?

(A) AAA (B) SSS (C) SAS (D) ASA

Q32. Two angles are congruent if they have

(A) same name (B) unequal measures

(C) equal measures (D) none of these

Q33. In the quadrilateral ADBC, AC = AD and AB bisect ∠A and △ABC ≅ △ABD. The relation between BC and BD is

(A) BC < BD (B) BC > BD

(C) BC = BD (D) None of these

Q34. If △ABC ≅ △FED, which of the following corresponding parts is not correct?

(A) ∠A = ∠F (B) BC = ED (C) AB = FD (D) ∠C = ∠D

Q35. Which of the following gives a positive result?

(A) (-8) × (-3) (B) (-5) × 6

(C) (-30) ÷ 5 (D) 7 – 15

Q36. The value of 36 ÷ (-6) + (-4) is

(A) 10 (B) -2 (C) -10 (D) 2

Q37. The temperature of a city was -3^0C, it decreased by 8^0C in a day. What is the new temperature?

(A) 5°C (B) -11°C (C) 11°C (D) -5°C

Q38. The sum of two integers is -18. If one of them is -11, the other one is

(A) -29 (B) -7 (C) 7 (D) 29

Q39. Given that (-125) × 276 = -34500, the value of (-125) × 277 is

(A) -34625 (B) -36425 (C) -43625 (D) -46325

Q40. The predecessor of successor of -21 is

(A) -20 (B) -19 (C) -22 (D) -21

Q41. Which of the following statements is not true?

(A) The HCF of two distinct prime numbers is 1

(B) The HCF of two co prime numbers is 1

(C) The HCF of two consecutive even numbers is 2

(D) None of these

Q42. The number of distinct prime factors of the largest 4-digit number is

(A) 2 (B) 3 (C) 5 (D) 1

Q43. The number of common prime factors of 75, 60, 105 is

(A) 2 (B) 3 (C) 4 (D) 5

Q44. Three electronic bells toll at intervals of 12 minutes, 15 minutes, and 20 minutes respectively. If they toll together right now at 8:00 AM, after how much time will they toll together next?

(A) 45 minutes (B) 30 minutes

(C) 60 minutes (D) 90 minutes

Q45. What is the greatest number that divides 70 and 125, leaving remainders of 5 and 8 respectively?

(A) 13 (B) 5 (C) 17 (D) 35

Q46. When 0.0425 is divided by 4.25, what will be the quotient?

(A) 0.01 (B) 0.001 (C) 10 (D) 100

Q47. Express 3780 cm in metres

(A) 37.8 m (B) 3.78 m (C) 0.378 m (D) 378 m

Q48. Simplify: 2.5 + 0.05 - [1.6 - {3.2 - (3.2 + 2.1 ÷ 7)}]

(A) 0.6 (B) 0.66 (C) 0.65 (D) 0.67

Q49. If the mean of 5 numbers is 12, then their total is

(A) 17 (B) 60 (C) 120 (D) 24

Q50. A triangular tile ABC has side lengths AB=5 cm, BC=7 cm and CA=8 cm. Its copy PQR has PQ=5 cm, QR=7 cm and RP= 8cm. Then

(A) $\Delta ABC \cong \Delta PQR$ (B) $\Delta ABC \cong QRP$

(C) $\Delta ABC \cong \Delta QPR$ (D) $\Delta ABC \cong \Delta RQP$

Q51. If the mean of the observations 14, 5, 4, 8, 2, 3, x is x, then find the value of x.

(A) 7 (B) 6 (C) 8 (D) 12

Q52. An angle is 45^0 less than two times of its supplement, then find the greater angle.

(A) 75^0 (B) 100^0 (C) 120^0 (D) 105^0

Q53. Find the sum of the mode and the median of the given data

2, 4, 3, 4, 6, 2, 5, 1, 3, 2, 1

(A) 6 (B) 5 (C) 8 (D) 10

Q54. Which statement is true about parallel lines?

(A) They meet at one point.

(B) They always form a right angle

(C) They remain at a constant distance from each other

(D) They meet at two points

Q55. Reciprocal of $\left(3 \div \frac{1}{2}\right)$ is

(A) $\frac{2}{3}$ (B) $\frac{3}{2}$ (C) $\frac{1}{2}$ (D) $\frac{1}{6}$

Q56. The difference between the maximum and minimum values of data is called

(A) range (B) data (C) mean (D) mediam

Q57. Which measure of central tendency best describe the data of most demanding size of shoe after sale?

(A) Mean (B) Mode (C) Median (D) Range

Q58. The supplement of an acute angle is _____angle.

(A) acute (B) obtuse (C) right (D) straight

Q59. If one angle of a triangle is equal to the sum of the other two angles, then the triangle is

(A) a right triangle (B) an isosceles triangle

(C) an equilateral triangle (D) an obtuse triangle triangle is

Q60. If 6, x, 10 is a pythagorean triplet, then value of x is

(A) 2 (B) 4 (C) 8 (D) 12