

42. Identify the word based on pattern in the given words

- (a) TAYLOR (b) PLATER
(c) LATERA (d) LATEDLY

AT	ATE	LATE	LATER	?
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43. How many different chords are determined by 8 distinct points on a circle?

- (a) 4 (b) 28 (c) 18 (d) 32

44. $\sqrt{16+9}$ equals to

- (a) $\sqrt{16} + \sqrt{9}$ (b) $\sqrt{25}$ (c) 25 (d) -5

45. If $3*4 = 5$ and $2*6 = 4$ then, $1*7$ is

- (a) 7 (b) 6 (c) 8 (d) -1

46. Pick the odd one.

- (a) PRUY (b) ACFJ (c) DFIM (d) GILQ

47. Product of any three consecutive natural numbers must be divisible by

- (a) 4 (b) 6 (c) 7 (d) 8

48. The number of sides of a regular polygon whose each exterior angle is 72° , is

- (a) 5 (b) 6 (c) 7 (d) 8

49. Who of the following is the first woman to win the Field Medal?

- (a) Ada Lorence (b) Julia Robinson (c) Maryam Mirzakhani (d) Marjorie

Lee Browne

50. Arrange the following great mathematician according to the chronology:

i) Euclid ii) Pythagoras iii) Aryabhatta iv) Ramanujan

- (a) ii), i), iii), iv) (b) iii), iv) ii), i) (c) i), ii), iii), iv) (d) iii), ii), i), iii)

*** All the best ***



MATHEMATICS TALENT HUNT 2024

Organized by : The Pi Group of Mathematics(TPGM), Cooch Behar

Registration No. – S0031696 of 2022-23

Class – VIII

Full Mark : 100

Time : 1 Hr 30 mins.

Instructions to the Candidates

- Candidates must write their Name, Class, Roll No. allotted for the exam and Name of their School correctly in the specific places of the answer sheet.
- There are 50 questions of 2 marks each. Four possible options of answer are given for each question.
- Candidates should choose the correct option and completely darken the circle with that option written in it in the answer sheet (OMR). For example, say the correct option for Question Number 10 is (c), then the candidate should darken the circle completely with 'c' written in it against the number 10 of the answer sheet. Use black ball pen or pencil for darkening.
- There is no negative marking.

1. Number of rational numbers between -5 and -9 is

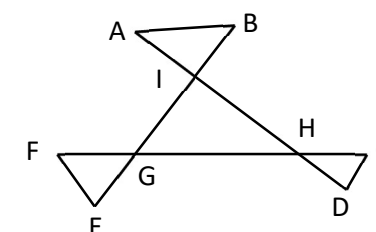
- (a) 5 (b) 4 (c) 3 (d) infinite

2. Cube root of 389.017 is

- (a) 9.3 (b) 8.3 (c) 7.3 (d) 7.9

3. The value of $\angle A + \angle B + \angle C + \angle D + \angle E + \angle F$ in the attached figure is

- (a) 570° (b) 720° (c) 360° (d) 180°



4. Let the number of vertices, number of sides and number of surfaces of a cuboid be respectively a, b and

c. Then the value of (a+b-c) is

- (a) 2 (b) -2 (c) 10 (d) 14

5. If $x^4 + \frac{1}{x^4} = m$, then $x^{12} + \frac{1}{x^{12}}$ equals to

- (a) m^3 (b) $m^3 + 3m$ (c) $m^3 - 3m$ (d) None of these

6. If $(x - 2)$ and $(x + 3)$ are the factors of the polynomial $(x^2 + bx + c)$ then, values of b and c are respectively

- (a) -1, -6 (b) 1, -6 (c) 1, 6 (d) -1, 6

7. If $1 + \frac{1}{x} = \frac{x+1}{x}$, then x equals to

- (a) 1 and 2 only (b) 1 and 0 only (c) +1 and -1 only (d) Any number except 0

8. How many nets are possible for a tetrahedron?

- (a) 1 (b) 2 (c) 3 (d) 4

9. One third of a number is greater than one fourth of its successor by 1. Then the number is

- (a) 5 (b) 10 (c) 15 (d) 20

10. Maximum possible points of intersection of a straight line with a quadrilateral (no side of the quadrilateral lie on the straight line) is

- (a) 0 (b) 1 (c) 4 (d) 3

11. What is the single discount equivalent to two successive discount of 20% and 25%?

- (a) 45% (b) 40% (c) 35% (d) 50%

12. If 26 persons can perform a piece of work in 45 days then, how many person can perform the work in 18 days?

- (a) 65 days (b) 90 days (c) 78 days (d) 50 days

13. Which of the following is a factor of $x^2 - 5x - 6$?

- (a) $(x - 3)$ (b) $(x + 1)$ (c) $(x + 6)$ (d) $(x - 2)$

14. The 5th term of the series 5, 10, 17, 26, ... is

- (a) 31 (b) 35 (c) 36 (d) 37

15. Sum of all there digit numbers formed by the digits 7, 8, 9 without repetition is

- (a) 5238 (b) 5832 (c) 5328 (d) 5823

16. Which of the following conditions is not a condition for congruence of two triangle?

- (a) S-S-S (b) S-S-A (c) A-S-A (d) R-H-S

17. The adjacent figure represents

- (a) a square but not a rhombus (b) a square but not a parallelogram
(c) a square but not rectangle (d) a square, a rhombus, a rectangle and a parallelogram as well



18. Area of a regular hexagon each of whose sides is of length a cm is

- (a) $\frac{3\sqrt{3}}{2}a \text{ cm}^2$ (b) $\frac{3\sqrt{3}}{2}a^2 \text{ cm}^2$ (c) $\frac{3\sqrt{3}}{2}a^3 \text{ cm}^2$ (d) $\frac{6\sqrt{3}}{5}a^2 \text{ cm}^2$

19. If $9.3^x = 1$, then the value of x is

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

20. A two digit natural number is so constructed that the units digit is double that of tens digit. How many such number is possible?

- (a) 2 (b) 3 (c) 4 (d) 5

21. Which of the following is not a Pythagorean Triplet?

- (a) 3, 4, 5 (b) 5, 12, 13 (c) 8, 15, 16 (d) 6, 8, 10

22. Which of the following numbers is divisible by 165?

- (a) 77413325 (b) 88413325 (c) 66143325 (d) 99413325

23. Let your age to be 'x' years and that of your father to be 'y' years. Now 'x' and 'y' changes with time such that they have

- (a) direct variation (b) inverse variation (c) none of these (d) both of these

24. When we multiply two numbers with more than two digits we have to use

- (a) only multiplication (b) only addition and multiplication (c) addition, multiplication and distributive property of multiplication over addition (d) none of these

25. The angles of a quadrilateral are in the ratio 3 : 4 : 5 : 6 then, what is the smallest angle?

- (a) 60° (b) 160° (c) 30° (d) 40°

26. A dice is thrown twice. Find the number of favourable cases where sum of numbers in the two throws have to five

- (a) 2 (b) 3 (c) 4 (d) 5

27. Which of the following graphical representation involves measurement of angles?

- (a) Pie Graph (b) Bar Graph (c) Histogram (d) None of these

28. The root of the linear equation $\frac{2x-13}{5} - \frac{x-3}{11} = \frac{x-9}{5} + 1$ is

- (a) 7 (b) 28 (c) 14 (d) 15

29. The volume of a cube is 343 cm^3 . Then what is the total surface area of the cube?

- (a) 394 cm^2 (b) 294 cm^2 (c) 300 cm^2 (d) 216 cm^2

30. If $x\%$ of y is z then which of the following relation is true ?

- (a) $\frac{x}{100} = y$ (b) $\frac{xz}{100} = y$ (c) $y = \frac{z}{100}$ (d) $\frac{xy}{100} = z$

31. The digit in units place of 7^7 is

- (a) 1 (b) 3 (c) 7 (d) 9

32. If $x + \frac{1}{x} + 2 = 0$, then the value of $(x^7 + \frac{1}{x^9})$ is

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

33. If $x = a^2 + \frac{1}{a^2}$, then which of the following is true?

- (a) Minimum value of x is 2 (b) Maximum value of x is 2 (c) Minimum value of x is -2
(d) Maximum value of x is -2

34. If $a^x = b$ and $b^x = a$, then the value/values of x is/are

- (a) 0 (b) 1 (c) ± 1 (d) -1

35. If A be the amount of the principal P in n years at a rate of $r\%$ per annum, compounded half yearly then

- (a) $A = P(1 + \frac{r}{200})^{2n}$ (b) $A = P(1 + \frac{r}{100})^{2n}$ (c) $A = P(1 + \frac{r}{100})^n$ (d) $A = P(1 + \frac{r}{200})^n$

36. If x and y varies directly as the following table then, the value of u and v are respectively

- (a) 60, 5 (b) 5, 60 (c) 5, 15 (d) 5, 40

x	3	u	20
y	9	15	v

37. Number of surfaces of a solid cylinder is

- (a) 2 (b) 3 (c) 4 (d) 1

38. If we divide the volume of a cylinder by its curved surface area, we get

- (a) radius of the base (b) diameter of the base (c) height of the cylinder (d) half of the radius of the base

39. Let 'A' be the event of getting an even number and 'B' be the event of getting an odd number in a sigle throw of a dice. Then which of the following is a sure event?

- (a) A' (b) B' (c) $A \cap B$ (d) $A \cup B$

40. If the hypotenuse and the base of a right angled triangle be respectively 10 m and 8 m, then the area of the triangle is

- (a) 80 m^2 (b) 40 m^2 (c) 48 m^2 (d) 24 m^2

41. Find the number of squares in the adjacent diagram

- (a) 55 (b) 56
(c) 24 (d) 36

