CLASS VIII
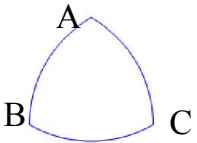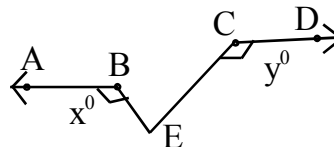
1. The next number in the series 10, 11, 15, 24, 40, 65, ...
   1) 100   2) 101   3) 102   4) 105

2. If a > b, a, b$\in$ N then n $_\times$ a < n $_\times$ b, then ***n*** belongs to set of...
   1) Natural numbers   2) Whole numbers
   3) Negative integers   4) Rational Numbers

3. No. of face diagonals and space diagonals of a cuboid are ......
   1) 12, 4   2) 6, 2   3) 8, 4   4) 12, 2

4. If 'c' is the circumference of a circle then $\dfrac{7c^2}{88}$ represents.
   1) $\dfrac{7}{88}$ times of circumference   2) (diameter)^2
   3) $\dfrac{(\text{radius})^2}{\pi}$ 4) Area of the circle

5. The measure / measures of central tendency which remains unchanged even if the largest score is doubled.
   1) Exclusively Mean   2) Exclusively Median
   3) Exclusively Mode   4) Mean and Median

6. If the area of a square and circle are almost equal and if "s" and "c" represents their perimeter and circumferences respectively then.
   1) c > s   2) c = s   3) s = $\dfrac{2c}{\sqrt{\pi}}$ 4) s = $\sqrt{2}$ c

7. If the arithmetic mean of the squares of first 'n' natural numbers is 11 then 'n' is equal to
   1) 5   2) 6   3) 8   4) 10

8. $(2017)^2$ - (2020 x 2014) = ...
   1) 209   2) 49   3) 19   4) 9

9. The mean of 'n' natural numbers is $\dfrac{5n}{9}$, then 'n' = ...
   1) 5   2) 4   3) 9   4) 14

10. The number which is divisible by 2, 3, 4, 5, 6, 8 and 9 is ......
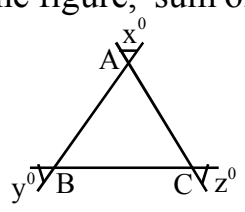   1) 12410   2) 31420   3) 14030   4) 33120

11. The digits in Ramanujan number is associated with which of the following sentence.
    1) Ramanujan is a genius   2) A pioneer of Tamilnadu
    3) Ramanujan is an Indian   4) Ramanujan is a Mathematician

12. Sum of divisors of 180 is ....
    1) 536   2) 520   3) 546   4) 500

13. The sides of a triangle are in the ratio $\frac{1}{2}:\frac{1}{3}:\frac{1}{4}$ and its perimeter is 104cm.
    then the length of its least side is .... cm
    1) 24   2) 32   3) 48   4) 18

14. A transformation in which a plane figure is reflected across a line, creating a mirror image of the original figure is called as ....
    1) Flip   2) Rotation   3) Revolution   4)Configuration

15. If 'p' and 'q' are primes such that p + q and p - q are also primes then the value of 'q' is .....
    1) 7   2) 5   3) 11   4) 2

16. The absolute prime number in the following.
    1) 101   2) 23   3) 19   4) 131

17. To become two numbers to be co-prime they must be ....
    1) prime numbers   2) one prime another composite
    3) both composite   4) may be (1) or (2) or (3)

18. Taking A = 1, B = 2, ... then the Median of the letters A, I, M, E, D is .....
    1) M   2) I   3) E   4) D

19. Sum of the angles in a triangle (triangle shaped) on non-Eucledian surface is
    1) 180^0 2) Greater than 180^0
    3) less than 180^0 4) None of the above

20. George Polya was born in the year .....
    1) 1885   2) 1887   3) 1886   4) 1888

21. In a certain language 1 is coded as 3, 2 is coded as 3, 3 is coded as 5 then 4 is coded as
    1) 5   2) 4   3) 3   4) 5

22. The arithmetic mean of first 2017 even numbers is ......
    1) 1008.5   2) 2016.5   3) 2016   4) 2018

23. $\frac{1}{2}+\frac{1}{4}+\frac{1}{8}+\frac{1}{16}+$ .... infinite terms is approximately equal to
    1) 1   2) $\frac{3}{4}$ 3) $\frac{1}{2}$ 4) 2

24. The name of the famous temple in Greek in 5th century BC built according to the Golden ratio is ....
    1) Venus temple   2) Athens   3) The Parthenon   4) Pisa Tower

25. $\sqrt{41+\sqrt{54+\sqrt{88+\sqrt{128+\sqrt{256}}}}}$ =.......
    1) 7   2) 6   3) 8   4) 10

26. Standard form of 0.0000000085 is ......
    1) 85×10^{10} 2) 85×10^{-10} 3) 0.85×10^{6} 4) 0.85×10^{-6}

27. The digit from 1 to 8 which does not appear in the decimal fraction of $\frac{22}{7}$ is
    1) 0   2) 2   3) 4   4) 6

28. If the additive inverse of $(x - x^2)$ is equal to 6 then the solution set is .....
    1) {-3, 2}   2) {3, -2}   3) {3, 2}   4) {-3, -2}

29. Any 4 consecutive numbers will never be in proportion,

    1) Yes   2) No   3) Can't say   4) None of the above

30. In the given figure, AB || CD ; $\angle ABE = x^0$, $\angle DCE = y^0$ then $\angle BEC = $ ....
    1) $\angle x + \angle y$ 2) $\angle y - \angle x$
    3) $\angle x + \angle y - 180^0$ 4) $180^0 - (\angle x + \angle y)$

31. If 'd' is the length of the diagonal of a square, its area in sq. units is equal to

1) d^2
2) $\dfrac{d^2}{4}$
3) $2d^2$
4) $\dfrac{d^2}{2}$

32. If $x + y = 2017$ then the value of $(-1)^x + (-1)^y = $ ....
    1) 1
    2) 2
    3) 0
    4) -2

33. $2^2+1 / 2^3+1 / 2^4+1$; $2^2+1 / 3^2+1 / 4^2+1$ respectively represents
    1) Ramanujan's birthday, Teachers day   2) World teachers day, Teachers day
    3) Teachers day, world teachers day   4) Teachers day, Ramanujan's birthday

34. The famous book " How to Solve it" was written in the year ....
    1) 1954
    2) 1946
    3) 1945
    4) 1944

35. A person collects interest on some principal at the rate of compound interest 2% on quarterly basis or at the rate of compound interest 8% on yearly basis then which is better to prefer.
    1) Both are same   2) At the rate of 2% Quarterly compounded
    3) At the rate of 8% yearly compounded   4) Can't be judged

36. $2^{0^{1^{7}}}$ is equal to ....

1) 20^{17}
2) 201^7
3) 2^{17}
4) 1

37. The Golden ratio is roughly equal to ....
    1) $1.615 : 1$
    2) $1.651 : 1$
    3) $16.15 : 1$
    4) $1.613 : 1$

38. If there are 100 non-square numbers lies in between two consecutive squares 'A' and 'B' then the value of 'B' is equal to ....
    1) 2500
    2) 2601
    3) 2401
    4) 2025

39. For which value of 'n', the AM of cubes of first 'n' natural numbers is equal to twice the sum of first 'n' natural numbers.
    1) 3
    2) 5
    3) 5
    4) 6

40. $[(10 \times 10) - 10\{10 - (10 \div 10)\}] \div 10 =$
    1) 10
    2) 9
    3) 0
    4) 1

41. A person sells two articles each for the same cost. He gets profit on one article and gets loss on the other. The percentage of gain is equal to the percentage of loss. On the whole, will he get profit or loss ?

    1) No profit, no loss   2) profit   3) loss   4) can't say

42. The compound ratio of $3 : 7$, triplicate ratio of $x : y$ and the sub-duplicate ratio of $49 : 9$ is

    1) $3 : 7$ 2) $x^3 : y^3$ 3) $3x^3 : 7y^3$ 4) $7 : 3$

43. If $x = a^m$; $y = a^n$ and $x^n . y^m = a^{\frac{2}{p}}$ then the value of "m n p" is equal to ......

    1) $\dfrac{1}{p}$ (2) $\dfrac{2p}{p}$ (3) 1 (4) $\dfrac{p}{2}$

44. If 'p' is the perimeter of a right angled triangle and 'c' is its hypotenuse then the area of the triangle is ....

    1) $\dfrac{(p-c)^2 - c^2}{4}$ 2) $2p + c$ 3) $\dfrac{1}{2}pc$ 4) $p^2 + c^2$

45. If l, b, h are the length, breadth and height of a cuboid then the length of the space diagonal is

    1) $\sqrt{lbh}$ 2) $(l + b + h)$ 3) $\sqrt{l^2 + b^2 + h^2}$ 4) $\sqrt{l^2 - (b^2 + h^2)}$

46. In $\triangle ABC$, $\angle A = 45^0$; $\triangle ABC \cong \triangle PQR$, and $PQ = QR$ and $QR = 8\sqrt{2}$ cms then AC = ...

    1) $4\sqrt{2}$ cms   2) 8 cms   3) 16 cms   4) $2\sqrt{2}$ cms

47. If the lengths of parallel sides of an isosceles trapezium is 'a' and 'b' in which 'a' is larger than 'b' and the height of the trapezium is $\sqrt{ab}$ then the length of the equal sides is .

    1) a - b   2) a + b   3) $\dfrac{a-b}{2}$ 4) $\dfrac{a+b}{2}$

48. A town's population increased by 1200 people and then this new population decreased 11%. The town now had 32 less people than it did before the 1200 increase. Find the original population.

    1) 10,000   2) 11,000   3) 12,000   4) 10,032

49. Which of the following data have the same value of Mean, Median, Mode.

    1) {1, 2, 3, 4, 5}   2) {2, 4, 6, 8, 10, 12}
    3) {3, 5, 7, 9, 9, 11, 13, 15}   4) {1, 3, 5, 7, 9, 11}

50. If the sum of 'n' odd integers is equal to 10,000 then n^{th} odd is equal to ...
   1) 100   2) 199   3) 200   4) 201

51. 1, 1, 2, 3, 5, 8, 13, 21, ... This series is called as ......
   1) Arithmetic series   2) Geometric series
   3) Fibonancci series   4) Harmonic series

52. Relationship between the areas of Square (S), Circle (C),   Equilateral triangle (E) having side or radius 'a' is ....
   1) S > E >C   2) C > S > E   3) E > S > C   4) C > E > S

53. The numbers from 1 to 6 digits which are arranged in such a way that the first 2 digits is divisible by 2, the first 3 digits divisible by 3 and so on upto 6 digits is ...
   1) 123456   2) 1234654   3) 123465   4) 123654

54. If the sides of a triangle are extended as shown in the figure, sum of the $\angle x + \angle y + \angle z$ is ....
   1) 90^0 2) 180^0
   3) 270^0 4) 360^0

55. The length of the space diagonal of a cube is $9\sqrt{3}$ cms then the volume of the cube is
   1) $\left(9\sqrt{3}\right)^3$ 2) 27^2 3) $\left(3\sqrt{3}\right)^3$ 4) 9^3

56. For every 30^0 angle made by minutes hand, the angle made by hours hand is
   1) 2^0 2) 12^0 3) $2\frac{1}{2}^0$ 4) 3^0

57. How many different rectangles can be framed with integer length and breadths with the same area 24 sq. cms.
   1) 4   2) 3   3) 2   4) 1

58. At what value of 'n'; $n^2 - n + 41$ is not a prime.
   1) n < 21   2) n = 31   3) n < 11   4) n = 41

59. N U{0} U{ -1, -2, -3, ...}U{Numbers of the form p/q where p, q are integers and q $\neq$ 0}=........
   1) Whole numbers   2) Integers
   3) Negative integers   4)Rational numbers

60. A Square is modified as shown below. Which figure is having the same perimeter as of square is ?

1) 　　2) 　　3) 　　4)

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