

MATHEMATICS OLYMPIAD

TEST FOR SELECTION TO PROVINCIAL LEVEL TRAINING POOLS - 2013

Category I

Index No :

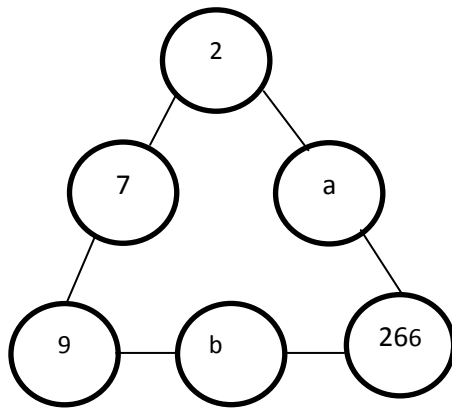
Grade :

School :

Answer all Question

Time: 1 hour

01.



The two numbers that could be the values of a and b in the above figure, such that the sum of the two numbers in any two adjacent circles is always a square number are,

- (1) 23,16 (2) 14, 23 (3) 23, 55 (4) 55, 23

02. A number when divided by 60 leaves a remainder 49. The remainder when the same number is divided by 15 is

- (1) 3 (2) 4 (3) 5 (4) 9

03. If $12345 \times 9 + 6 = A$, The value of A is

- (1) 11 111 (2) 111 111 (3) 1 111 111 (4) 11 111 111

04. Sum of 7 consecutive integers is 77. The largest integers among them is

- (1) 8 (2) 11 (3) 14 (4) 17

05.



The shaded area of the above figure as a fraction of the whole figure is

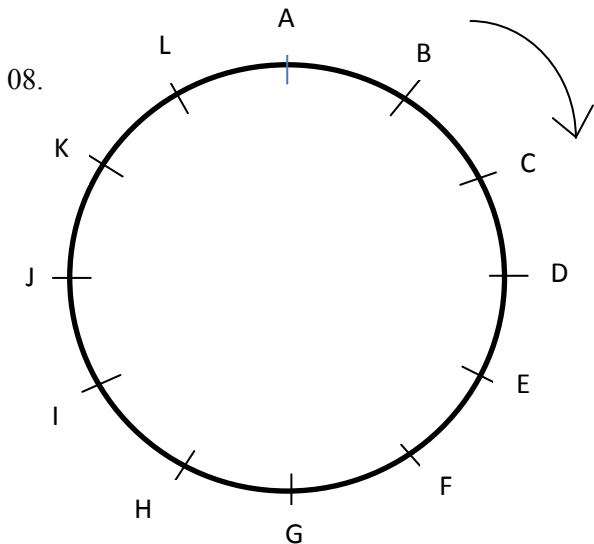
- (1) $\frac{5}{12}$ (2) $\frac{7}{12}$ (3) $\frac{5}{7}$ (4) $\frac{5}{6}$

06. The product of two integers is 120. The largest value that could be the sum of those two integers is

- (1) 34 (2) 43 (3) 62 (4) 121

07. 3 pumpkins were weighed two at a time. The readings so obtained are 9 kg, 11 kg, and 12kg. The mass that could be the mass of the heaviest true it is

- (1) 5 kg (2) 6 kg (3) 7 kg (4) 8 kg



A circle is drawn on the floor. Small balls are placed at all the points marked A to L. The balls are counted in the clockwise sense starting from A, and every third ball is removed. This process is continued until only 2 balls are left.

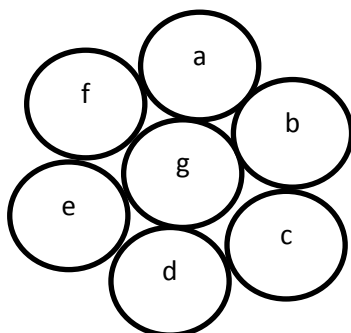
The positions of the two balls left so are

- (1) A, E (2) B, G (3) B, H (4) E, J

09. There is a weekly fair on every Thursday in the village Dediawela. The highest number of days the weekly fair can be conducted from January 1st to February 14th is

- (1) 5 (2) 6 (3) 7 (4) 8

10.



$$a + g + d = 10$$

$$b + g + e = 10$$

$$c + g + f = 10$$

If the English letters stand for different whole numbers, the value g stands for to satisfy the relations given is

- (1) 4 (2) 3 (3) 2 (4) 1

11. The number of times 0 occurs when all the whole numbers from 99 to 199 are written is

- (1) 19 (2) 20 (3) 21 (4) 22

12. The number of zeroes at the right hand end when the product $20^{50} \times 50^{20}$ is written is

- (1) 70 (2) 80 (3) 90 (4) 100

13. The number that should be subtracted from (-8) to obtain (-6) as the answer is

- (1) (-2) (2) (+2) (3) (-6) (4) (+6)

14. When n is a positive integer such that $A = n^2 + n + 1$. A stands for a prime number. The set of values which could be most suitable for n is

- (1) only 0 and 1 (2) only 0,1,2 (3) only 0,1,2,3 (4) Any positive integer

15.

A magic square is obtained by writing the numbers from 1 to 25 using one number only once, in the cages given in the figure. The sum of the numbers in each row, each column and each diagonal is the same. The values so obtained as the sum is

- (1) 45 (2) 55 (3) 65 (4) 75

16. 4 Candidates contested an election. The total number of valid votes cast is 61. The least number that could be the number of votes of the winning candidate is

- (1) 15 (2) 16 (3) 17 (4) 20

17. The sum of all the digits reduced to a single digit of a five digit number is 2. The number of five digit numbers that satisfy this condition is

- (1) 2 (2) 3 (3) 4 (4) 5

18. a is a square number. Both integers on either side of this square number are prime numbers. Most accurate statement which satisfy these condition is

- (1) $0 < a < 4$ (2) $0 < a < 10$ (3) $9 < a < 25$ (4) $25 < a < 100$

19. ස භ න The value of 'ස' in the addition given here is

$$\begin{array}{r} \text{ඳ් ස් න} \\ \hline \text{ඳ් ට් න් ඳ්} \\ \hline \end{array}$$

- (1) 7 (2) 8 (3) 9 (4) 8 or 9

20. The ten numbers 9,15,33,22,49,40,13,47,53 and 29 are separated into 5 pairs such that the sum of the two numbers in each pair is the same. The other number of the pair with 29 as one number is

- (1) 33 (2) 40 (3) 47 (4) 49