C M O

CHINMAYA   MATHEMATICS   OLYMPIAD

9

Please fill the following details immediately.

Name: _____

Hall Ticket No.: _____

❖ **50 Questions** ❖

❖ **Time Allowed : 120 Minutes** ❖

❖ **Do not open this question paper until the signal is given.**

❖ **Please check the CLASS printed on the cover page and the inside is same when you open the booklet.**

General Instructions:

1) All questions are compulsory and carry equal marks.

2) There is no negative marking.

3) There is only one correct answer hence write one choice only.

4) Please avoid cutting/ overwriting etc.

5) Return the paper to the invigilator at the end of the examination.
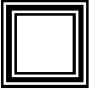
6) Write the correct option in the given box.

1) How many 'F's are there in the following sentence: "Finished files are fine fruits of years of scientific deep study combined with the experience of years".
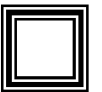   a] 8   b] 1   c] 3   d] 6

2) Mohan is 18th from either end of a row of boys. How many boys are there in that row?
   a] 26   b] 32   c] 24   d] 35

3) Flight to Mumbai leaves every 5 hours. At the information counter I learnt that the flight took off 25 minutes before. If the time now is 10 : 45 a.m., what is the time for the next flight ?
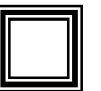   a] 2 : 20 a.m.   b] 3 : 30 a.m.
   c] 3 : 55 p.m.   d] 3 : 20 p.m.

4) How many 8's are there in the following sequence which are immediately preceded by 6 but not immediately followed by 5 ?
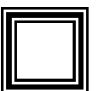   6 8 5 7 8 5 4 3 6 8 1 9 8 5 4 6 8 2 9 6 8 1 3 6 8 5 3 6
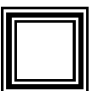   a] One   b] Two   c] Three   d] Four

5) If the ratio of the areas of two squares is 25:36, then the ratio of their perimeters is
   a] 5:6   b] 25:36   c] 6:5   d] 36:25

6) If the diagonal and the area of a rectangle are 25 m and 168 m2, what is the length of the rectangle?
   a] 17m   b] 7 m   c] 24m   d]31m

ROUGH WORK

7) Which of the following figures has the largest area?

a] A circle of radius $\sqrt{2}$ cm .

b] An equilateral triangle whose sides each have length 4 cm.

c] A triangle whose sides have lengths 3cm, 4cm and 5cm.

d] A square with side 2 cm

8) Vertices of a quadrilateral ABCD are A(0, 0), B(4, 5), C(9, 9) and D(5, 4). What is the shape of the quadrilateral?

a] Square

b] Rhombus

c] Rectangle but not a square

d] Parallelogram but not a rhombus

9) A number is selected at random from first thirty natural numbers. What is the chance that it is a multiple of either 3 or 13?

a] 17/30   b] 2/5

c] 11/30   d] 4/15

10) The monthly incomes of A and B are in the ratio 4:5, their expenses are in the ratio 5:6. If 'A' saves Rs.25 per month and 'B' saves Rs.50 per month, what are their respective incomes?

a] Rs.400 and Rs.500   b] Rs.240 and Rs.300
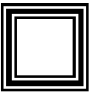
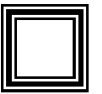c] Rs.320 and Rs.400   d] Rs.440 and Rs.550

ROUGH WORK

11) Anita had to do a multiplication. Instead of taking 35 as one of the multipliers, she took 53. As a result, the product went up by 540. What is the new product?
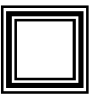
a] 1050   b] 1590   c] 1520   d] 540

12) a' and 'b' are the lengths of the base and height of a right angled triangle whose hypotenuse is 'h'. If the values of 'a' and 'b' are positive integers, which of the following cannot be a value of the square of the hypotenuse?
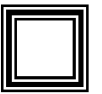
a] 13   b]23   c]37   d]41

13) A is B's sister. C is B's mother. D is C's father. E is D's mother. Then, how is A related to D?

a] Grandfather   b] Granddaughter
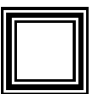c] Grandmother   d] Daughter

14) A bag contains 50 P, 25 P and 10 P coins in the ratio 5: 9: 4, amounting to Rs. 206. Find the number of coins of each type respectively.

a] 360, 160, 200   b] 200, 360,160
c] 160, 360, 200   d] 200,160,300

15) If 20% of a = b, then b% of 20 is the same as :

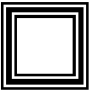a] 6% of a   b] 10% of a
c]4% of a   d] 8% of a
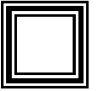
ROUGH WORK

16) Find out the wrong term in the series 2, 5, 10, 50, 500, 5000

  a] 2   b] 50   c] 5000   d] 50
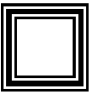
17) Choose the correct alternative that will continue the same pattern and replace the 'x' in the series 525, 430, 345, 270, x
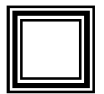
  a] 255   b] 205   c] 253   d] 175

18) Product of two co-prime numbers is 117. Their L.C.M should be

  a] Equal to HCF   b] 1

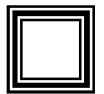 c] 117   d] cannot be calculated

19) If 2 tables and 3 chairs cost Rs, 3500 and 3 tables and 2 chairs cost Rs. 4000, then how much does a table cost ?
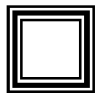
  a] 500   b] 1500   c] 2000   d] 1000

20) $17\dfrac{4}{7} + 13\dfrac{2}{12} - ? = 11\dfrac{2}{3}$

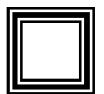 a] 16   b] 18   c] 17   d] 19

21) If a - b = 3, $a^2 + b^2 = 29$, find the value of ab.
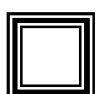
  a] 12   b] 18   c] 15   d] 10

22) $18800 \div 470 \div 20 = ?$

  a] 12   b] 8   c] 2   d] 10
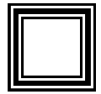
23) $48 \sqrt{?} + 32 \sqrt{?} = 320$

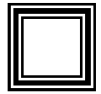 a] 9   b] 36   c] 4   d] 16

ROUGH WORK

24) If the product 4864 * 9 P 2 is divisible by 12, the value of p:

a] 1   b] 3   c] 4   d] 2
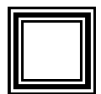
25) How many cubes of 3 cm edge can be cut out of a cube of 18 cm edge
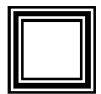
a]216   b] 36   c] 232   d] 484

26) There are six bags, each containing 15, 18, 20, 16, 19, 31 apples respectively. One person purchased 3 and another 2 bags. If the first person holds double the number of apples than the second person, what is the bag that is unsold?
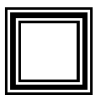
a]Third   b] First   c] last   d] second

27) To make one dozen, you require 12 one-rupee notes. How many ten-rupee notes do you require to make ten dozen?

a]110   b]100   c] 12   d]11

28) After two years, my son will be double his present age. After four years my daughter's age will be three times of her present age. Who is elder among both of them?
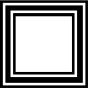
a]daughter   b] son

c] cannot answer   d] both are of the same age
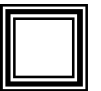
ROUGH WORK

29) The distance between a town and village is 32 km of which the first 8 km is up and the next 24 is down. While going on a cycle, a boy takes 170 minutes and on return takes 270 minutes. What is his speed per hour while going up and down separately?

  a] 16,6   b] 6,16   c] 8,24   d] 24,8

30) Three friends divide eggs from a bag equally. After each of them eat 4 eggs, the total number of eggs remaining with them, is equal to 1/3 of total eggs. Find the original number of total eggs.
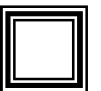
  a] 18   b] 24   c] 36   d] 48

31) A student is studying for his examinations and the lights go off. It is around 1:00 AM. He lights two uniform candles of equal length but one is thicker than the other. The thick candle is supposed to last 6 hours and the thinner one illuminates for 4 hours. When he finally goes to sleep, the length of the thick candle is twice longer than the thin one. For how long does the student study in candle light?

  a] 3   b] 4   c] 6   d] 10

32) A square sheet of paper is converted into a cylinder by rolling it along its length. What is the ratio of the base radius to the side of the square?
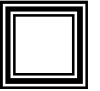
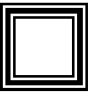 a] $1/2\pi$ b] $\pi/2$ c] $2\pi/1$ d] $1/\pi$

ROUGH WORK

33) The side of a cube is 8 m, Find the volume?

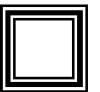a] 513 m³   b] 512 m³   c] 64 m³   d] 24 m³

34) A rectangular mat has an area of 120 sq.metres and perimeter of 46 m. The length of its diagonal is:
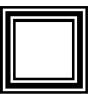
a]17 cm   b] 17 m   c] 17 m²   d] 16 m

35) *A man walks 3 km northwards and then turns left and goes 2 km. He again turns left and goes 3 km. He turns right and walks straight. In which direction he is walking now ?*
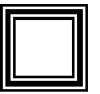
a] East   b] West   c] North   d] South

36) Babloo ranked 16th from the top and 29th from the bottom among those who passed an examination. 6 boys did not participate in the competition and 5 failed in the examination. How many boys were there in that class ?
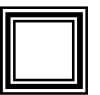
a] 44   b] 40   c] 50   d] 55

37) There is one number below 1000 that gives a remainder of 1 when it is divided by 2, 3, 4, 5, 6, 7 or 8. What is that number?

a] 941   b] 741   c] 841   d] 999

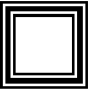38) In a group of siblings, there are seven sisters, and each sister has one brother. How many are there in total?

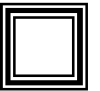a] 8   b] 14   c] 10   d] 7

ROUGH WORK

39) A man decides to buy a horse for 600 rupees. After a year, he sells it for 700. He buys it again for 800. And finally sells it for 900. What is his overall profit?

a] 200 　　　　b] 100 　　　　c] 0 　　d] 300

40) What number, when multiplied either by 1½ or added by 1½ gives the same result?
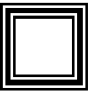
a] 3 　　　b] 4 　　　　c] 1 　　　d] 5

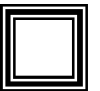41) What number should come next in this series:
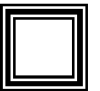479126, 47926, 4796, 796 ?

a] 79 　　　b] 96 　　　　c] 76 　　　d] 67

42) A man died, leaving 10,00,000 for his widow, 5 sons and 4 daughters. Each daughter received an equal amount, each son received twice as much as a daughter, and the widow received three times as much as a son. How much did the widow receive?

a] 500000 　b] 300000 　　c] 250000 　d] 400000

43) In a group, the chickens are double in number than the sheep. Their heads + legs are 99. How many chickens and sheep are there?
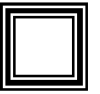
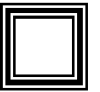a] 9,18 　　b] 18,9 　　　c]18,36 　　d] 36,18

ROUGH WORK

44) Krishna and Radha are playing cards for a stake of one rupee per game. At the end Krishna has won 3 games and Radha has won 3 rupees. How many games did they play?

  a]9   b]6   c]3   d] Infinite
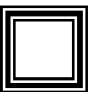
45) There are some eggs in each bucket, named A, B, C, D, E. If A = 5; B+A =6; E+B =C; E+C+B = 8. Find E.

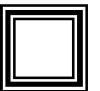 a] 3   b] 4   c] 1   d] 2

46) Find out what is 'x'? You get 'x' number of lemons for 16 rupees. For 'x' rupees you get 36 lemons.

  a] 16   b]24   c] 36   d] 18

47) If 5 people dig a 5 meters hole in 5 hours, how many people are required to dig a 100 meters hole in 100 hours?

  a] 100   b] 5   c]10   d] 50

ROUGH WORK

48) A honey bottle weighs 500 grams. If it is replaced by oil, it weighs 350 grams. The weight of honey is double than the oil. What is the weight of the empty bottle?

   a] 150 grams   b] 250 grams

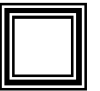   c] 300 grams   d] 200 grams

49) A beautiful lady reporter asked a young comedian about his age. "Multiply my age after 3 years by 3" he smiled, "Multiply my age 3 years ago by 3. The difference is my age". What is his age?
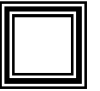
   a] 23   b]34   c]18   d]30

50) A fish weighs 2 kilos plus half of its weight. What is the weight of the fish?

   a] 4 kg   b] 3 kg   c] 2.5 kg   d] 3.5 kg

ROUGH WORK