



Roll No.										
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- Please check that this questionnaire contains **12** printed pages.
- Code A, B or C given on the right hand top corner of the questionnaire should be written on the answer sheet in the space provided.
- Please check that this questionnaire contains **40** questions.

41ST ARYABHATTA INTER-SCHOOL MATHEMATICS COMPETITION – 2024
SAMPLE PAPER
CLASS - V

Time Allowed: **2 Hours**

Max. Marks: **100**

GENERAL INSTRUCTIONS:

1. Do not write your name on the questionnaire.
2. Write your roll no. on the questionnaire and the Answer Sheet in the space provided.
3. All the questions are compulsory.
4. Read questions carefully; think twice before you write the answer. **No overwriting or cutting is allowed on the Answer Sheet.** Another copy of the questionnaire or answer sheet will not be provided.
5. Do your rough work in the space provided in the questionnaire.
6. The questionnaire contains four sections. Section A contains **10** questions of 1 mark each, Section B contains **10** questions of 2 mark each, Section C contains **10** questions of 3 marks each and Section D contains **10** questions of 4 marks each. All the questions are Free Response Type Questions.
7. No working or descriptive answers of any question is to be given. Only the Answers are to be written on the Separate Answer sheet provided to you.
8. Use Blue or Black pens to write the answer on the Answer Sheet.
9. Answers should be written clearly in the space provided on the Answer sheet.
10. Use of calculator is not allowed.

SECTION-A

Write the Answers only in the space provided on the Answer sheet.

1. The product of three consecutive odd numbers is 693. Find the sum of the numbers.
2. When 853853853 ... upto 100 digits is divided by 10001. Find the remainder.
3. Find the supplement of angle 58.5° .
4. Fraction of a decade in a period of 5 centuries equals to_____.
5. Write the sum of the interior angles of heptagon.

SPACE FOR THE ROUGH WORK

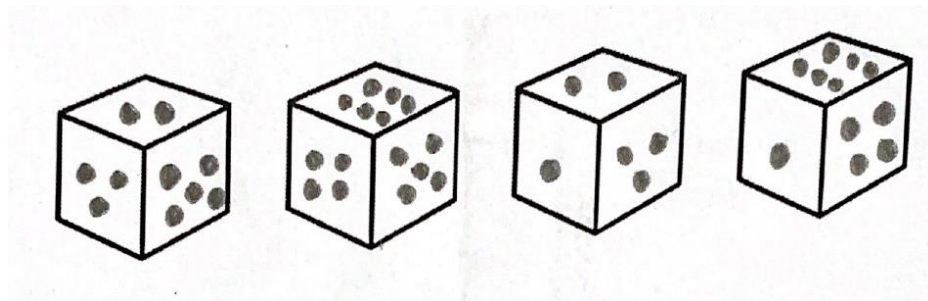
6. A clock is placed that 2:00 pm the minute hand point towards Northwest. In which direction does the hour hand point at 6:00 pm?
7. What is the percentage of numbers from 1 to 70, that have units digit as 1 to 9?
8. Solve : Six dozen + one dozen pairs = _____sets of three.
9. The length of the edge of a cube is 58.8 cm. Find the area of the face of a cube.
10. Nine poles are erected on each side of the boundary of a square field. The distance between each pole is 80cm. Find the perimeter of the field.(in metre)

SPACE FOR THE ROUGH WORK

SECTION-B

Write the Answers only in the space provided on the Answer sheet.

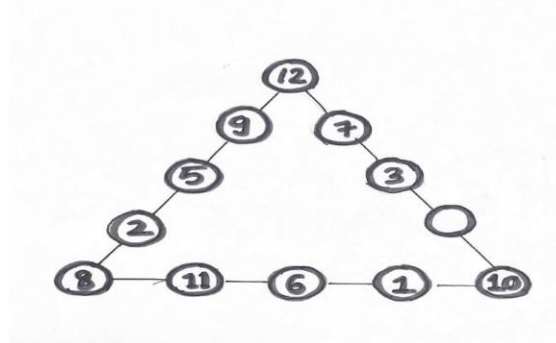
11. Manan wants to bake 48 muffins for his birthday party. To bake 12 muffins, four eggs are needed. Eggs are sold in boxes where each box contains 4 eggs. How many boxes of eggs Manan needs to buy?
12. Puneet distributed some books among a group of children. If he gave 20 books to each child, he would have 60 books left. If he gives 27 books to each, he would have 4 books left. How many children are there in the group?
13. The product of numerator and denominator of a fraction is 21. If 2 is added to the numerator and 2 is subtracted from the denominator it becomes 1. What is the fraction?
14. Solve the following: $MMDXLIX + CLI \div XXX = \underline{\hspace{2cm}}$
15. Which number will be on the opposite to the face of the dice which has 3.



SPACE FOR THE ROUGH WORK

16. How many different rectangles can be formed using 96 identical squares?

17. Find the missing number.



18. Find the largest possible length of rectangle whose area is equal to the area of square with perimeter of 36cm.

19. Find the distance between the centre and any point on the boundary of a circle with perimeter of 833624 mm.

20. The profit earned by selling an article for ₹9000 is double the loss incurred when the same article is sold for ₹4500. At what price the article is sold to make a profit of 25%?

SPACE FOR THE ROUGH WORK

SECTION-C

Write the Answers only in the space provided on the Answer sheet.

21. Two boxes of clay can be used to make one toy car with some clay left over. The left overs of 12 boxes of clay can be used to make two toy cars without any clay left. How many toy cars can be made using 48 boxes of clay.

22. When Gaurav increases its speed from 20km/hr to 25 km/hr, he takes one hour less than the usual time to cover a certain distance . What is the actual distance covered by him?

23. Jivansh and Devansh had ₹108 altogether. Jivansh spent 75% of his money and Devansh spent 80% of his money. As a result, the amount of their remaining money becomes the same. Find the initial money of Jivansh.

24. Aman, Naman and Daman participated in a burger competition. Aman beat Daman by 18 burgers. Aman also beat Naman by eating 50% more burgers than Naman. Also, Naman had eaten 5% more burgers than Daman. How many burgers have they eaten in all?

SPACE FOR THE ROUGH

25. Aman has 150 platinum, 180 gold and 420 silver coins. He places these three types of coins in a stack such that each stack has same number of coins of the same type. How many stacks were formed?

26 Fill in the boxes with the digits represented by A , B and C in the given question :

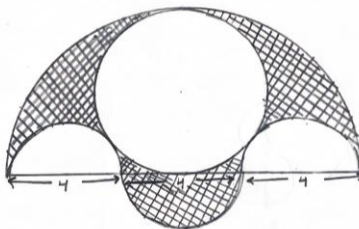
$$\begin{array}{r} \\ \\ \hline \\ \\ \hline \end{array}$$

27. A park is in the shape of a circle. A man crossed the park across the diameter AB. What percentage of the distance is saved by not walking along the circumference?

SPACE FOR THE ROUGH WORK

28. Two furniture factories produce the same kind of beds and bed frames, which are sold as a set. Factory A produces the beds for 18 days and bed frames for 12 days respectively. The number of sets produced by Factory A in 30 days are 432. Factory B produces beds in 13 days and bed frames in 17 days. It produces 442 sets of beds and bed frames in 30 days. If there is a joint venture of both factories then find the maximum number of such sets they can produce.

29. Find the area of the shaded region.



30. If the sum of the interior angles of a regular polygon measures 1980° , how many sides does the polygon have?

SPACE FOR THE ROUGH WORK

SECTION-D

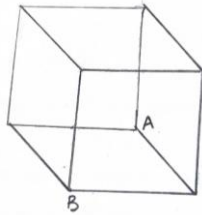
Write the Answers only in the space provided on the Answer sheet.

31. The captain of a cricket team of 11 members is 26 years old and the wicket keeper is 3 years older. If the ages of these two are excluded, the average age of the remaining players is one year less than the average age of the whole team. What is the average age of the team?

32. An empty rectangular bathtub 150cm long, 60cm wide and 50cm high is being filled with water from a tap at the rate of 30 l per min. The tap is turned off after 12 minutes. Water is then drained out of the tub at the rate of 18 l per min. What would be the new height of the bathtub (measured in cm) 6 minutes later?

33. A motorbike leaves point X at 1 pm and moves towards point Y at a uniform speed. A car leaves Point Y at 2 pm and moves towards point X at a uniform speed which is double that of the Motorbike. They meet at 3:40 pm at a point which is 168km away from X. Find the distance between X and Y.

34. A fly is trapped inside a hollow cube. It moves from A to B along the edges of the cube, taking the shortest possible route. It then comes back to A, along the edges, taking the longest route (without going over any point more than once). If the total distance travelled 5040 m, what is the area of a face of the cube?



SPACE FOR THE ROUGH WORK

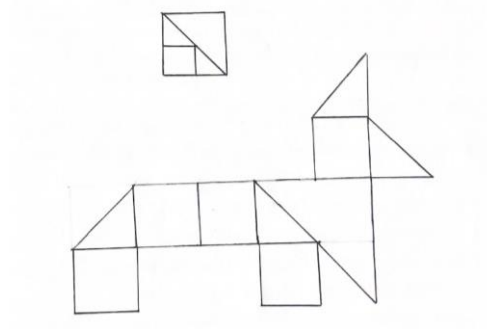
35. Four boys Ehaan , Farhan , Gary and Hamad blew some balloons. The number of balloons Ehaan blew is half of the number of balloons Farhan , Gary and Hamad blew. The number of balloons Farhan blew is one- third of the number of balloons Ehaan , Gary and Hamad blew .The number of balloons that Gary blew is one- fourth of the number of balloons Ehaan , Farhan and Hamad blew. If Hamad blew 65 balloons in all, find the number of balloons Ehaan and Farhan blew all together.

36. A florist used 1895 flowers to decorate the entrance gate of a house. He then use $\frac{3}{8}$ of the remaining flowers to make table decoration. With $\frac{1}{5}$ of the remaining flowers, he made a Garland. He is now left with 80 flowers. Find the number of flowers he had in the beginning.

SPACE FOR THE ROUGH WORK

37 A 3-digit number has a remainder 3 when divided by 5. The remainder is 5 when it is divided by 7. When 2 is added to this number it becomes completely divisible by 9. What is the smallest such a 3-digit number?

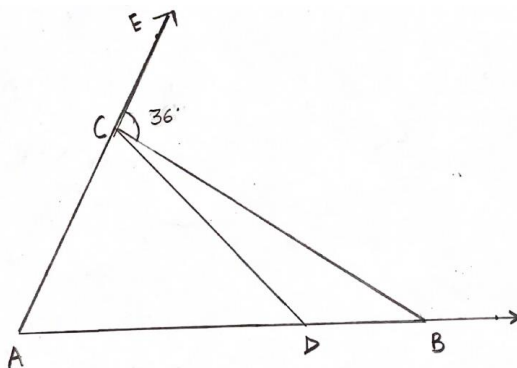
38. Tarun has several squares pieces, each piece of an area 6. He cut them into squares, triangles, rectangles in the manner shown in the diagram. She made a dog using these pieces as shown below. Find the area of the dog?



SPACE FOR THE ROUGH WORK

39. Sumit has 4 boxes one box has 21 marbles, the second box has 26 marbles, the third box has 17 marbles and the fourth box has 96 marbles. He adds the same number of marbles in all boxes and find that the total of marbles in the first three boxes becomes equal to the number of marbles in the fourth box. What is the least number of marbles that he puts in each of the boxes?

40. In the figure (not drawn to scale) given below, if $AD = CD = BC$ and $\angle BCE = 36^\circ$, how much is the value of $\angle DBC$?



SPACE FOR THE ROUGH WORK
