



Summer Fields School

KAILASH COLONY, NEW DELHI-110048

Roll No.										
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A

- Please check that this questionnaire contains **15** 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

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.

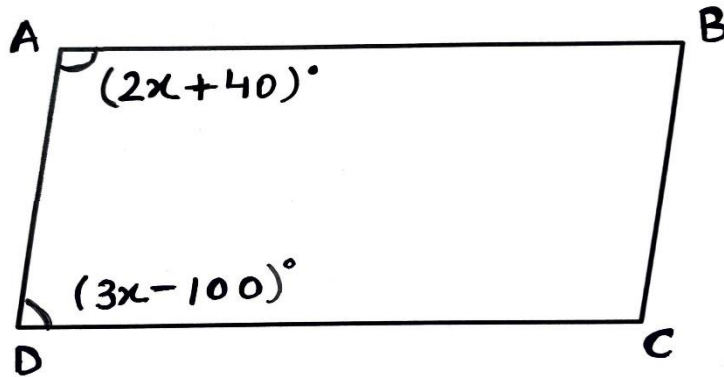
SECTION-A

Write answers only in the space provided on the answer sheet.

1. Find the number of diagonals in a regular hexagon.
2. The difference between a pair of numbers is 175 less than twice their sum. If the larger number is twice that of the smaller number, find their product.
3. Find the measure of an angle which is four times its supplement.
4. The thickness of a piece of plywood is 15mm. What is the thickness of 347 such pieces when placed in a stack (in metres)?

SPACE FOR THE ROUGH WORK

5. In the given parallelogram ABCD, find the measure of $\angle ABC$.



6. Evaluate:

$$15.378 + 0.387 + 0.7036 + 17.63 + 0.3 - 2 - 0.5$$

7. How much is $27\frac{2}{3}\%$ of 756 more than $35\frac{2}{5}\%$ of 215?

SPACE FOR THE ROUGH WORK

8. The average runs of a batsman in 23 innings is 72. How many runs he has to score in the next two innings to increase the average runs by 3?
9. Name the point which is equidistant from vertices of a triangle.
10. Saanvi started mathematics test at 02:34 pm. She finished it in 2 hours and 35 minutes. After the test she had to go for football practice at 06:33 pm. How much time would be left for her to go for football practice (in minutes)?

SPACE FOR THE ROUGH WORK

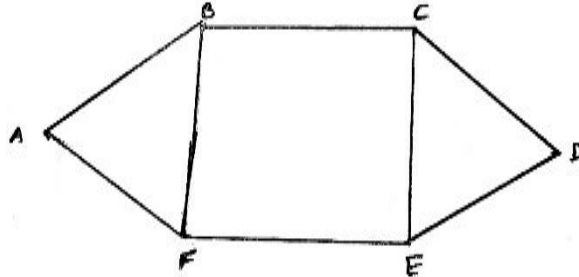
SECTION-B

Write the answers only in the space provided on the answer sheet.

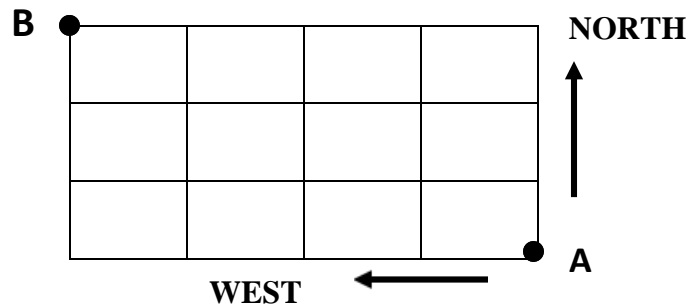
11. If the average marks of four sections of Class V containing 25, 20, 35 and 20 students is 15, 25, 28 and 22 respectively. Find the average marks of class V.
12. Jadwik takes 8 hours 23 minutes to travel from city A to city B and 6 hours 18 minutes to reach city C from city B. How many seconds will he take to reach from city A to city C via city B?
13. In the evening, Suman started walking with her back towards the sun. After sometime, she turned left and then turned right and then she turned left again. In which direction is she going now?
14. A number is exactly divisible by 5 and 9 but when divided by 8, 12 and 16 it leaves a remainder 6 in each case. Find the number.

SPACE FOR THE ROUGH WORK

15. The diameter of the larger wheel of a tractor is 100 cm. How many revolutions will the larger wheel make to travel a distance of 314 metres? (use $\pi = 3.14$)
16. In the given figure, there are two equilateral triangles each having a perimeter of 39 cm and a square. Find the distance covered by an ant on the path $A \rightarrow B \rightarrow C \rightarrow D \rightarrow E \rightarrow F \rightarrow A$



17. In the given figure, the lines represent one-way roads allowing travel only northwards or only westwards. If the car starts from point A, then how many distinct routes can car take to reach from point A to point B?



SPACE FOR THE ROUGH WORK

18. Jyotsna plays basketball. Out of her first 40 throws, 45% are successful. After eight more throws her success rate increases to 50%. How many throws were successful out of her last eight throws?
19. Find the number opposite to the face which has 6 in the dice shown below.



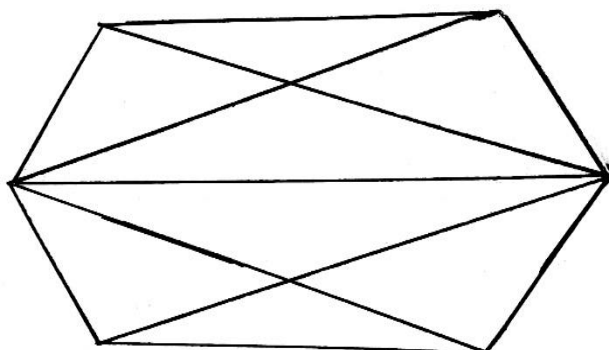
20. $\frac{2}{8}$ of Ram's pocket money is equal to thirty percent of Shyam's pocket money. Ghanshyam's pocket money is ₹ 2950 which is two-fifth of Shyam's pocket money. Find Ram's pocket money (in ₹).

SPACE FOR THE ROUGH WORK

SECTION-C

Write the answers only in the space provided on the answer sheet.

21. Find the number of quadrilaterals in the given figure.



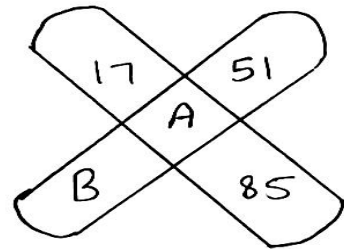
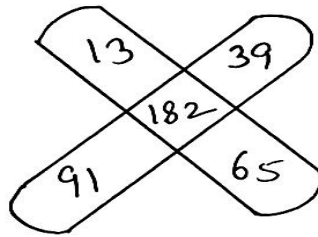
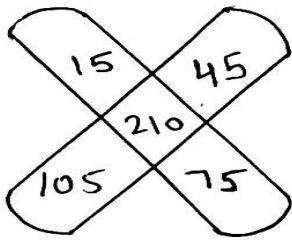
22. A metallic sheet of rectangular shape with dimensions $24\text{ cm} \times 30\text{ cm}$ is given. A square of side 6 cm is cut off from each of its corner to make an open box. Find the volume of the box (in cm^3).
23. Sam has 225 more Singapore stamps than Malaysia stamps. After selling $\frac{3}{5}$ *th* of Singapore stamps and $\frac{1}{4}$ *th* of the Malaysia stamps, he has 918 stamps left with him. Find the total numbers of stamps he had in the beginning.

SPACE FOR THE ROUGH WORK

24. What is the least number of square tiles required to pave the floor of a room having dimensions 15 m 17cm and 9 m 2 cm?
25. A bucket is filled halfway with water. When 2 litres of water is added into the bucket, it is three-quarter full. How much more water (in litres) is required to be added to fill the first bucket and two more buckets of the same capacity?
26. Evaluate and answer in Roman Numeral.

$$\text{MMCMLXXXIX} \div \text{XLIX} \times \text{LVII} + \text{MMDCCXCVII} - \text{DCC}$$

27. Observe the pattern given below and find A – B.



SPACE FOR THE ROUGH WORK

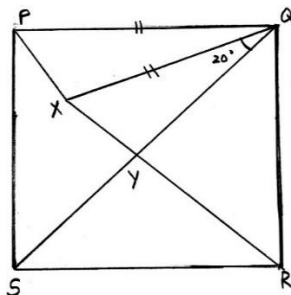
28. Mahi has 48 animals including goats, hens, cats, and dogs. One-eighth of the animals are goats. Three-quarter of the animals are not hens, and two-third of the animals are not cats. What fraction of total animals are dogs?
29. A ribbon is coloured with red, orange, yellow, green, blue, black and the remaining as violet in different fractions as $\frac{1}{10}$, $\frac{1}{20}$, $\frac{1}{30}$, $\frac{1}{40}$, $\frac{1}{50}$, $\frac{1}{60}$. If the length of the violet portion is 12.08m. Find the total length of the ribbon (in metres).
30. In a triangle ABC, $\angle BCA = 60^\circ$. D and E are points on AB and AC respectively, such that AD = DE. If F is a point on BC such that BD=DF. Find the measure of $\angle FDE$.

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SECTION-D

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

31. PQRS is a square and QS is the diagonal. If $PQ = QX$ and $\angle XQY = 20^\circ$. Find $\angle QPX + \angle RYS$.



32. A yellow light flashes 3 times per minute and a green light flashes 5 times in 3 minutes at a regular interval. If both lights start flashing at the same time, how many times do they flash together in 5 hours?

SPACE FOR THE ROUGH WORK

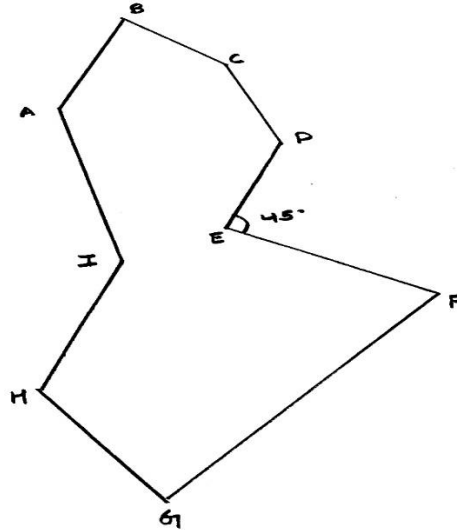
33. 10% of the inhabitants of a village died of Cholera, whereas 25% of the remaining inhabitants left the village due to panic situation in the village. As a result, the population of the village reduced to 8100. Find the number of inhabitants left due to panic situation.
34. A shopkeeper sold 10 m, 15 m and 15 m cloth to A, B and C respectively. He sold it at ₹ 80.2 per m to A, at ₹ 79 per m to B. He earned 20% extra after selling the same length of cloth to C as compared to B. Find the total amount he received after selling the cloth to them.

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35. If the length of a rectangle is halved and its breadth is tripled, then find the percentage change in area of the rectangle.
36. A grocery store owner bought 36 bags. Each bag carries 1.5 kg flour. He wants to repack them into smaller bags which will reduce the quantity of each bag by $\frac{1}{3}$ rd. If he bought each bag of 1.5 kg flour at ₹ 20, how much gain he will have after selling all the new bags at the same rate?

SPACE FOR THE ROUGH WORK

37. A metal cuboid of dimension 9 cm, 8 cm and 11cm is melted and converted into a cube. What is the minimum amount of metal that has to be added or removed to make it a cube whose edge is a natural number?
38. Find the difference between the sum of all the angles of polygon ABCDEFGHI and reflex \angle DEF in the given figure.



SPACE FOR THE ROUGH WORK

39. A truck travelling at a speed of 70 km/hr uses 60% more diesel to travel a certain distance than it does when it travels at the speed of 50 km/hr. If the truck can travel 28.8 km on a litre of diesel at 50 km/hr. What is the distance (in km) covered by truck using 19 litres of diesel at the speed of 70 km/hr?
40. In a class, 55% of the students are boys, which is 70 more than that of number of girls. 48% of the students were selected for a quiz competition which includes 210 boys. What percent of the girls are not selected for the quiz competition?

SPACE FOR THE ROUGH WORK
