



# Summer Fields School

KAILASH COLONY, NEW DELHI-110048

Roll No.										
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- Please check that this questionnaire contains 9 printed pages.
- Please check that this questionnaire contains 24 questions in part 1 and 11 questions in part 2.

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37th ARYABHATTA INTER-SCHOOL MATHS COMPETITION 2020

CLASS V

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Time Allowed: 2Hrs.

Max.Marks : 100

## GENERAL INSTRUCTIONS:

1. Participant should not write his/her name on the questionnaire
2. Write your Roll no. on all pages of the paper.
3. All questions are compulsory.
4. Read questions carefully, think twice before you write the answer.  
Another copy of the questionnaire will not be provided.
5. Marks are indicated at the end of each question.
6. Write the answer within the prescribed limited space.
7. Do your rough work on a sheet pinned up with the questionnaire.
8. Overwriting is not allowed.

Roll No \_\_\_\_\_

**Part - 1**

Q1. Divide 32 into two parts such that the sum of their reciprocal is  $\frac{1}{6}$ . The two parts are \_\_\_\_\_ and \_\_\_\_\_. (2)

Q2. Two fifth of  $\frac{95}{8}$  is less than two third of  $\frac{99}{4}$  by \_\_\_\_\_. (2)

Q3. Two numbers  $97*$  and  $*0$  have a missing digit. The difference of the missing digits is 7. The greatest possible remainder when the bigger number is divided by the smaller number is \_\_\_\_\_. (2)

Q4. Divide 180.544 by 14. The difference of the place value of the digits at thousandths place and the tens place of the quotient obtained by dividing the given number is \_\_\_\_\_. (2)

Q5. 19 is the second largest factor of a number which has only three factors. The difference between its largest and the smallest factor is \_\_\_\_\_. (2)

Q6. Which of the following fraction is closest to  $\frac{2}{5}$ .

$$\frac{32}{65}, \frac{28}{58}, \frac{26}{54}, \frac{27}{69}$$

Fraction closest to  $\frac{2}{5}$  is \_\_\_\_\_. (2)

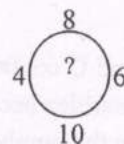
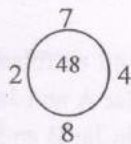
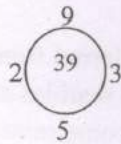
Q7. Manasvi spend ₹87.50 on a pen and  $\frac{1}{3}$  of the remaining money on a pencil. She was still left with  $\frac{1}{4}$  of her money. The cost of the pencil is \_\_\_\_\_. (2)

Roll No \_\_\_\_\_

Q8. Ria mixed 25% of 65.8 litres water, 34% of 27.5 litres sugar syrup and 4 litres of lime juice. After distributing the drink equally among 8 of her friends, she is left with 17.4 litres of the drink. The quantity of drink given to each friend was \_\_\_\_\_ (2)

Q9. Savik and Manik travelled from Wonderland to Amazing Arena which are 360 km apart. Manik started his journey 30 minutes earlier than Savik but arrived 30 minutes later than Savik. Savik covered this journey at an average speed of 1500m/min. The average speed of Manik is \_\_\_\_\_ (2)

Q10. Fill in the missing number: (2)



The missing number is \_\_\_\_\_

Q11. Look at the series and fill in the blank: (2)

6, 9,  $\frac{27}{2}$ ,  $\frac{81}{4}$ , \_\_\_\_\_

Q12. Pihu loves to eat chocolates. Her mother allows her to eat a definite number of chocolates every month. August being her birthday month, she is allowed to eat double the number of chocolates as she does in the rest of the months. The fraction of total chocolates she eats in April is \_\_\_\_\_ (2)

Q13. In a Mathematics exam there are 24 questions. The questions carried either 5 marks or 3 marks. A student attempted all questions and scored 104 marks.

The number of questions carrying 5 marks is \_\_\_\_\_ (2)

Q14. Solve the following and answer in Roman numerals - (3)

$\text{MMDCCXXXVI} \div \text{CCCXLII} + \text{MMMCDLXXXVIII} - \text{MDLXXIX} = \underline{\hspace{2cm}}$



Roll No \_\_\_\_\_

Q15. Sheena bought all items at 30% discount during Christmas. She paid ₹ 382.90 for flowers and ₹ 669.20 for mugs after discount. Then, she also bought a flower vase priced at ₹ 560. The total savings she had on purchase of three items is \_\_\_\_\_ (3)

Q16. Mr. Stichman had 24 m more cloth than Mr. Pantman. Mr. Stichman used 12.8 m of cloth whereas Mr. Pantman used 11.9 m of cloth every day. When Mr. Stichman finished all the cloth he had, Mr. Pantman was still left with 6.60 m of cloth. The total length of cloth Mr. Stichman and Mr. Pantman had in the beginning was \_\_\_\_\_ (3)

Q17. Three jars A, B and C contain marbles. If 48 marbles are transferred from Jar A to Jar C, then the number of marbles become same in Jar A and Jar C. If 26 marbles are transferred from Jar B to Jar C, then the number of marbles in Jar B and Jar C become same. The number of more marbles in Jar A than Jar B is \_\_\_\_\_ (3)

Q18. In a necklace, the number of diamonds is 2.8 times the number of pearls. The number of rubies is 1.125 times the number of diamonds whereas 0.03 of the number of pearls is 18. The percentage of diamonds in the necklace is \_\_\_\_\_ (3)

Q19. On the opening of a new shop the shopkeeper gave gifts to its customers on the first day. Every 2 customers got 1 pen, every 3 customers got 2 keychains and every 4 customers got 3 calendars. A total of 91 gifts were given. The number of customers who visited the shop on the first day is \_\_\_\_\_. (3)

Q20. The average weight of Seema and Reena was 15 kg less than the average weight of Mona and Sona. The average weight of all four people is 50 kg. However, Seema weighs 70% as much as Reena. The weight of Seema is \_\_\_\_\_ (3)

Q21. Tejaswini is baking muffins. When she packs 3 muffins in a box, 2 muffins are left. If she packs 5 muffins in a box, 3 muffins are left. When she packs 7 muffins in a box, she is left with as many muffin as were left when she packed 5 muffins. The least number of muffins she baked was \_\_\_\_\_ (3)

Roll No \_\_\_\_\_

Q22. At an ice cream tasting event, 55% of the people liked chocolate ice cream, 70% of the people liked kiwi gelato and 40% of the people liked both. There were 45 people who did not like any of the flavours. The total number of people at the event were \_\_\_\_\_ (3)

Q23. Anurag walks to his school which is 1600m away from his house at a speed of 80m/min. One day, his friend Ankit who was cycling at a speed of 180m/min gave him a ride. On that day, Anurag was able to reach the school in 15 minutes. The duration of time Anurag walked before taking the ride is \_\_\_\_\_ (3)

Q24. Look at the given Time – Table and answer the following questions: (4)

Station	Train A	Train B	Train C
Kingston City	a. 0718	a. ----	a. 1630
	d. 0723	d. 0815	d. 1633
Hounslow City	a. 0945	a. 1043	a. 1821
	d. 0947	d. 1047	d. 1825
Osterly Town	a. 1150	a. 1355	a. 2212
	d. 1155	d. 1358	d. 2214
Saddle Town	a. 1440	a. 1520	a. 0249
	d. ----	d. 1525	d. 0251

- a) Fastest train going from Hounslow City and Saddle Town is \_\_\_\_\_.
- b) Train that takes the longest time from Kingston City to Osterly Town is \_\_\_\_\_.
- c) Fastest train from Kingston City to Saddle Town is \_\_\_\_\_.
- d) Train that takes the longest time to reach Osterly Town from Hounslow City is \_\_\_\_\_.

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**Part II –Geometry**

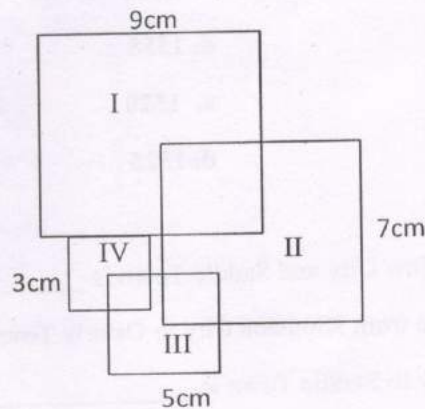
**Note- The diagrams are not made to scale**

Q1. Area of a rectangle is 324.9 square meter which is  $11\frac{2}{5}$  times its length. The breadth of the rectangle is  $\frac{2}{5}$  its length. The perimeter of this rectangle is \_\_\_\_\_ (2)

Q2. Geeta is facing South-West. After making a  $225^\circ$  clockwise rotation followed by a  $315^\circ$  anti-clockwise rotation, the direction she is facing now is \_\_\_\_\_ (2)

Q3. Dhruv has several cuboids each measuring 8cm x 6cm x 3cm. The number of such cuboids needed to make the smallest possible cube is \_\_\_\_\_ (2)

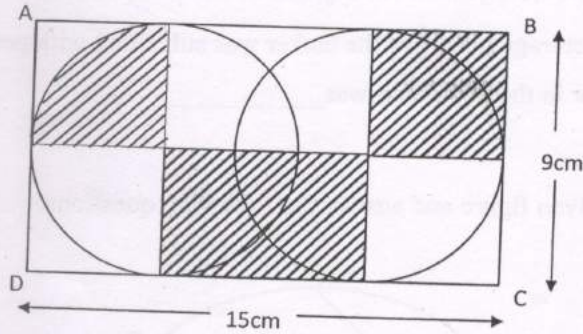
Q4. The figure below is made up of four squares. The corner of square I touches the center of the square II, the corner of square II touches the center of the square III and the corner of square III touches the center of the square IV. The total area of the figure shown is \_\_\_\_\_ (3)





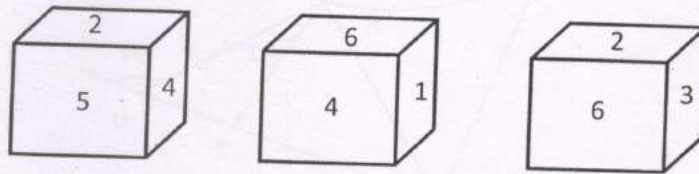
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Q5. Look at the given figure and find the perimeter of the shaded region.



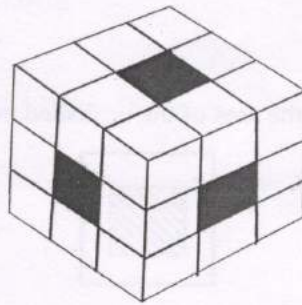
The perimeter of the shaded region is \_\_\_\_\_ (3)

Q6. Look at the given picture and pair up the digits on opposite faces.



The number pairs are: 1. \_\_, \_\_ 2. \_\_, \_\_ 3. \_\_, \_\_ (3)

Q7. One cube is removed from the middle in each row as shown by the shaded portion. The bigger cube is made up of smaller cubes each with an edge of 1cm.

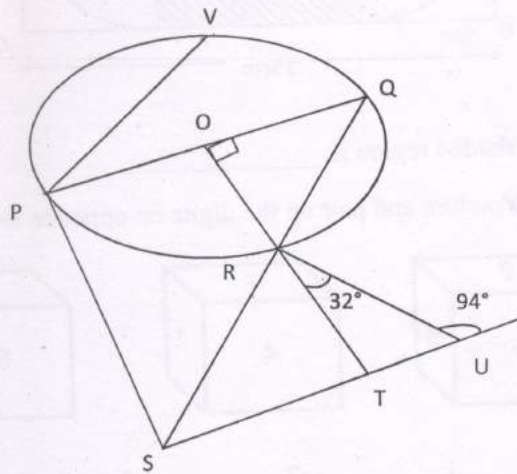


The surface area of the remaining cube is \_\_\_\_\_ (3)

Roll No \_\_\_\_\_

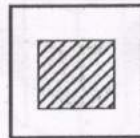
Q8. An oil tanker transfers petrol in an underground petrol storage tank measuring 80 m by 30 m by 40 cm. The storage tank already has 15 litres of petrol in it. When petrol is filled up to  $\frac{5}{8}$  height of the storage tank,  $\frac{4}{9}$  of the tanker was still filled with petrol. The amount of petrol in the tanker in the beginning was \_\_\_\_\_ . (3)

Q9. Look at the given figure and answer the following questions:



- Name the largest chord \_\_\_\_\_ (1)
- Measure of  $\angle RST$  \_\_\_\_\_ (2)
- Sum of  $\angle QPS$ ,  $\angle PSU$ ,  $\angle SUR$  and  $\angle URQ$  \_\_\_\_\_ (2)
- Shade a major segment (1)
- $PQ \perp$  \_\_\_\_\_ (1)

Q10. In the figure given below, the area of the unshaded portion is 32 sq.cm



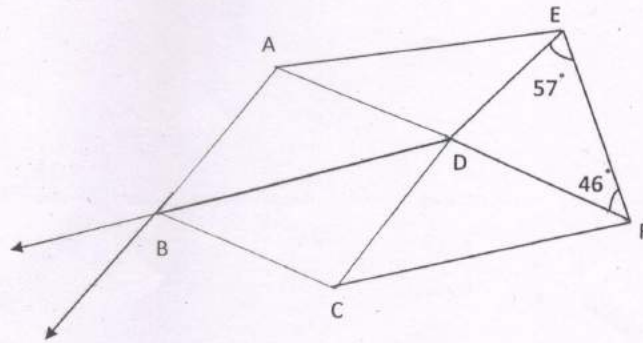
The total area of the bigger square is \_\_\_\_\_ (3)



Roll No \_\_\_\_\_

Q11. Look at the given figure and answer the following questions:

Given – ABCD is a rhombus



- a)  $AB \parallel$  \_\_\_\_\_ (1)
- b) Supplement of  $\angle BAD$  \_\_\_\_\_ (1)
- c) An isosceles triangle \_\_\_\_\_ (1)
- d) Adjacent angle of  $\angle AED$  \_\_\_\_\_ (1)
- e) A linear pair of angles \_\_\_\_\_ (1)
- f) Measure of  $\angle BCD$  \_\_\_\_\_ (2)
- g) Measure of  $\angle DBC$  \_\_\_\_\_ (2)