Summer Fields School

KAILASH COLONY, NEW DELHI-110048

Roll No.							

- Please check that this questionnaire contains 8 printed pages.
- Please check that this questionnaire contains 24 questions in Part -1 and 18 questions in Part-2.

28th ARYABHATTA INTER-SCHOOL MATHEMATICS COMPETITION – 2011

CLASS - V

Time Allowed: 2 Hours | 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 : ARITHMETIC

Q1. The largest natural number, by which the product of three consecutive even numbers is always divisible, is _____. (2)

Q2. To the product of smallest twin prime numbers, add the H.C.F of two co-primes. The difference of the face value and the place value of the digit in Tens place of the sum, is _____. (2)

Q3. 0.2% of a number is 0.3, the number is _____. (2)

Q4. In a school, there are four boys to every three girls. If there are 304 boys, the number of girls in the school is _____. (2)

Q5. A snack bar sells five items with an average price of Rs 0.60. Which two items from the following items can be added to the menu without changing the average price?

Éclairs	Rs 0.50	Cake Slice	Rs 0.75
Cookie	Rs 0.60	Chewing Gum	Rs 0.45

The items that can be added are _____ and _____. (2)

Q6. If 40 nails are used in making one shoe, the number of nails needed to make 20 pairs of shoes is _____. (2)

Q7. Students of a class took a math test. $\frac{1}{3}$ of the class got B grade, $\frac{1}{4}$ got B+ grade, $\frac{1}{6}$ got C grade and $\frac{1}{8}$ failed. The remaining students got A grade. The number of students who got an A grade is _____. (Number of students in the class is less than 30). (2)

Q8. Manya is 5yr 8mth old. Her sister Sanya is three-quarters her age. When Manya is 9yr 8mth old, the age of her sister would be _____. (2)

Q9. Half of a pie is divided into 3 equal pieces. Each piece is _____ of the whole pie. (2)

Q10. In a division sum, the divisor is 12 times the quotient and 5 times the remainder. If the remainder is 48, then the dividend is _____. (2)

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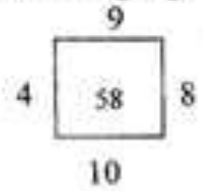
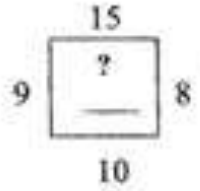
Q11. Bananas cost Rs 36 per dozen, and an apple costs Rs 7 each. A plate of fruit salad consists of 3 bananas and $\frac{1}{4}$th of an apple. Find the cost of 12 such plates. (2)

Q12. 4 boxes contain a total of 96 sweets. If each sweet costs 45p, the cost of each box of sweets is _____. (2)

Q13. Fill in the missing digit.





(2)

Q14. The least number which when divided by 5, 6, 7, and 8 leaves remainder 3, but when divided by 9 leaves no remainder is _____. (3)

Q15. Ms Origamy bought $17\frac{1}{2}$ m of paper to make Christmas decorations. She cut equal size pieces of paper of $\frac{3}{4}$ m each. Paper left with her is _____.

(3)

Q16. Puneet cut 85cm of Brass from one end of a piece of brass rod 2.3m long. What decimal fraction of 5m is the length of the remaining piece? _____ (3)

Q17. Jay bought 3 packets of pins, 2 packets of tattoos, and 1 packet of glitter for Rs 19.10. Each packet of pin cost Rs 1.90 and the packet of glitter costs twice as much as a packet of tattoo. The packet of tattoo costs him _____. (3)

Q18. Using the digits 1, 2, 3, 4, 5, 6, 7, 8, 9 each exactly once, write any three 3-digit numbers so that the second number is twice the first and the third number is thrice the first number.

1. _____ 2. _____ 3. _____

(3)

Q19. In a party 52% of the guests liked the decorations and 40% liked the food, 27 % liked both. The percentage of guests who did not like the food as well as the decoration is _____. (3)

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Q20. A superfast train running at the speed of 94km/hr develops a snag and stops. It had covered $\frac{1}{17}$ of the total distance in the 4hrs it had been running. The distance yet to be covered is _____. (3)

Q21. Solve:

$\overline{\text{CDI}} + \text{XLIV} \times \text{XVIII}\ \overline{\text{CMXII}} \div \text{CXCVII} =$ _____ (3)

Q22. The average weight of 6 students increases by 3kg when one of the students whose weight is 58kg is replaced by a new student. The weight of the new student is _____. (3)

Q23. Mohit had 390 marbles. He shared it with 8 boys and 13 girls so that each boy got 2 marbles more than each girl. The number of marbles left with him is _____. (3)

Q24. Look at the given time table and answer the following questions.

Station		Bus 1	Bus 2	Bus 3
Noodle Pond	d	20:10	11:25	08:10
Burger Junction	a	21:40	12:05	08:50
	d	21:55	12:20	09:05
Chocopur	a	23:20	13:50	10:40
	d	23:45	14:05	10:55
Salad Town	a	01:05	15:30	11:15
	d	01:50	15:40	11:20
Lake Cola	a	02:35	16:35	13:10

i) Which bus takes the least time to reach Lake Cola from Noodle Pond? _____.

ii) Which is the fastest bus from Burger Junction to Salad Town? _____.

iii) A person has missed Bus 2 at Chocopur. For how long he has to wait for the next earliest bus to Salad Town? _____

iv) Which is the fastest bus from Burger Junction to Chocopur? _____. (4)

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PART 2 : GEOMETRY

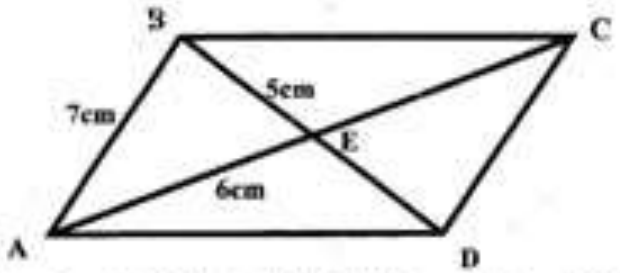
Note :- The diagrams are not drawn to scale.

Q1. An angle $\frac{4}{5}$ of its complement measures _____. (1)

Q2. If there are 24 spikes in a wheel, the measure of the angle between two consecutive spokes (in degree) is _____. (1)

Q3. One property of Rhombus that differentiates it from a square is _____
_____. (1)

Q4. If ABCD is a parallelogram, AB = 7cm, BE = 5cm, and AE = 6cm, the length of the segment BD is _____.



(1)

Q5. Given a rhombus PQRS in which ∠PQR = 125°, and PQ = 3.5cm. The measure of ∠SPQ is _____. (1)

Q6. A clock shows 01.30. If the hour hand points west, the minute hand will point to _____. (1)

Q7. A rectangular tank 40cm by 10cm contains 8.4 litres of water. The height of the water level is _____. (2)

Q8. Number of cubes of side 3cm equivalent in volume to a 12cm cube is _____. (2)

Q9. The area of a square mirror is 81sq.cm. Naman wants to use a tape to protect its sides. Allowing $\frac{1}{2}$ cm for overlapping, he requires tape measuring _____. (2)

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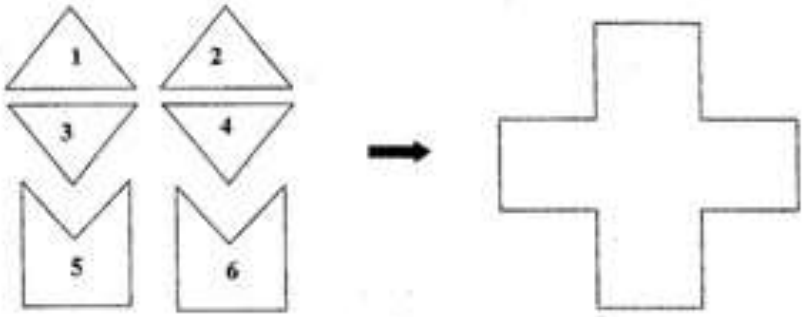
Q10. 1 litre of water can fill up a container in the shape of a cube. The measure of the edge of the container is _____. (2)

Q11. A carpet 6m square is laid on the floor of a room 15m by 12m. What percent of the area of the floor is not covered by the carpet. _____ (2)

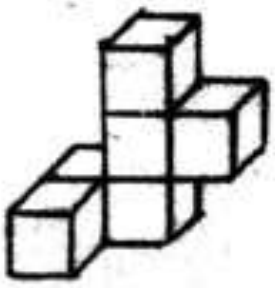
Q12. Rearrange the pieces numbered 1 to 6 so that they form ✚ sign. Draw these pieces in the ✚ sign to show how you have arranged the pieces.



(2)

Q13. Coffee bean shop has all square tables that seat one person on each side. If every side is filled, the least number of people that can be seated in an arrangement of 9 tables is _____. (2)

Q14. In the figure given below, six cubes, each a cm on an edge, are fastened together. The total surface area in square cm is _____.



(3)

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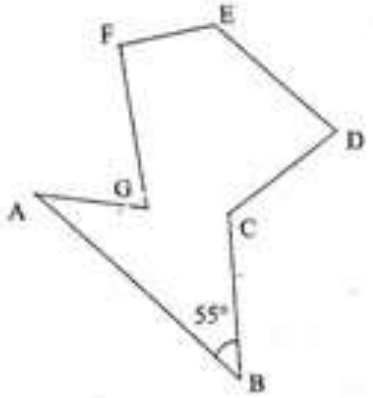
Q15. Each side of the equilateral triangle (Figure 1) is 1cm long. The vertices of each subsequent shaded triangle touch each side of the white triangle at mid point. The sum of the perimeter of all the white triangles in figure 3 is _____.

Figure 1 Figure 2 Figure 3

(3)

Q16. Look at the given figure and answer the following questions:



i) Two line segments which are ⊥ to each other. _____

ii) Name the kind of polygon. _____

iii) (Sum of all the angles of the polygon EDCBAGF) – ∠ABC = _____

(3)

Q17. 50 square stone slabs of equal size are needed to cover a floor of area 72sq m. The length of each stone slab is _____.

(3)

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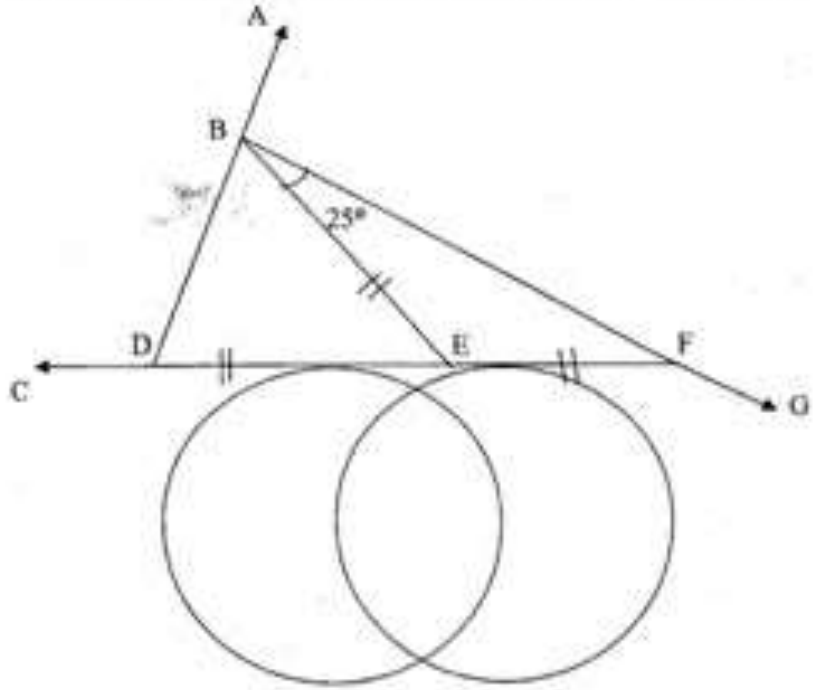
Q18. Look at the given figure and answer the following questions:



i) Measure of ∠DBE = _____. (2)

ii) Sum of angles ABF, EFG, and BDC = _____ (2)

iii) ΔBDF = _____ (kind of triangle) (1)

iv) Draw two equilateral triangles twice as tall as the other inside the identical circles. (2)

v) After drawing the triangles number of chords you get is _____. (1)