ARYABHATTA INTER-SCHOOL MATHS COMPETITION 2010

SUMMER FIELDS SCHOOL (JUNIOR)
CLASS V

Time Allowed : 2 Hrs.   M.M. : 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. Use of eraser and overwriting is not allowed.

PART – 1 : ARITHMETIC

Q1. $\frac{1}{3}$ is $\frac{1}{8}$ of __

(2)

Q2. There are ____ two digit counting numbers where the tens place digit is greater than the units digit.   (2)

Q3. If 10% of a number is 100, then 100% of the same number is _____.

(2)

Q4. $100{,}000 \div 1{,}000 = 10{,}000 \div$ _____.

(2)

Q5. The product of three whole numbers is 60 and their sum is 13 and the numbers are all different and greater than 1. The numbers are _____, _____, _____.

(2)

Q6. Complete the following equation using the digits 1, 3, 5, 7, 9 (only once) to show a two digit number divided by a two digit number is equal to one digit number.

(2)

____ ____ $\div$ ____ ____ = ____

Q7. The average of four tenths and five thousandths is _____.

(2)

Q8. The greatest of three consecutive numbers whose sum is 24 is _____.

(2)

Q9. 0.127 is greater than $\frac{1}{8}$ by _____. (Answer in fraction in lowest term)

(2)

Q10. Priya got either 90 or 100 in each of her five math tests. The average of all her math tests is 98. The number of times she got 90 is _____.   (2)

Q11. A ribbon is twice as long as a cane 2m 7cm long. The cane is 3 times longer than the stick. The total length of the ribbon, cane, and the stick is _____.

(2)

Q12. If a Δ b means a + a – b, then the value of (7 Δ 3) Δ 2 is _____.

(2)

Q13.

$$\begin{array}{r} 5 \quad A \\ + \; B \quad C \\ \hline D \; 4 \quad 3 \\ \hline \end{array}$$

In the above sum A, B, C, D are all different digits. The sum of these digits is _____.

(2)

Q14. Dhruv has less than 30 marbles. When he puts them in piles of 3 he has no marbles left over. When he puts them in piles of 2 he has 1 left. When he puts them in piles of 5 he has 1 left. He has _____ marbles.

(3)

Q15. Rohan gave half of his stamps to Nikita. Nikita gave half of her stamps to Anu. Anu gave $1/4^{th}$ of the stamps given to her to Vikram and kept the remaining 12. Rohan had _____ stamps. (3)

Q16. The weight of a glass bowl and the marbles it contains is 50gm. If the marbles in the bowl is doubled, the total weight of the bowl and the marbles becomes 92gm. Given that each of the marble has same weight, then the weight of the bowl is _____. (3)

Q17. The average of seven numbers is 49. If 1 is added to the first number, 2 is added to the second number, 3 is added to the third number and so on upto the seventh number, the new average will be _____. (3)

Q18. Fill in the blank with the starting number.

[ ]	→ Multiply by 0.5 →	Multiply by $\frac{1}{3}$
		↓
50	← Add 1 ←	Square the number
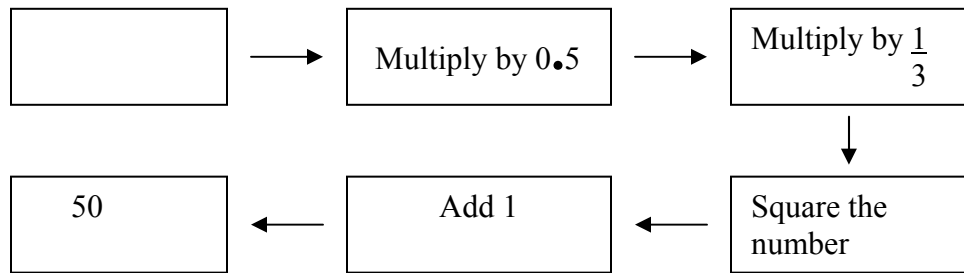
(3)

Q19. Arrange in descending order

$$\frac{7}{8} \quad , \quad 2.66 \quad , \quad 262\% \quad , \quad \frac{25}{8}$$

_____ (3)

Q20. Akhilesh takes 20min to jog around the race course one time and 25min to jog around a second time. If the course is 3km long, his average speed in km/hr for the whole jog is _____. (3)

Q21. There are 300 fishes in the tank. Their number is increased by 20%. Then 20% of the fishes die. The number of fishes in the tank now is _____.
(3)

Q22. In class Five of a school, 40% of the students like music, $\underline{3}$ like dance, $\underline{1}$ like
$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\quad$ 15 $\qquad\quad$ 10

to swim, 5% like cricket and not painting. The remaining 40 students like painting.
The number of students who like to dance is _____. (3)

Q23. Write an 8 digit number divisible by 8, 9, and 11 without repeating any digit.

$\qquad$ ___ ___ ___ ___ ___ ___ ___ ___ $\qquad\qquad\qquad\qquad$ (3)

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

		Train 1	Train 2	Train 3
Gremlin Square	a	19:45	11:30	06:05
	d	20:27	13:25	07:32
Fairy Town	a	21:32	14:15	09:30
	d	21:47	14:25	09:35
Angels Port	a	22:10	15:17	10:10
	d	22:25	15:49	10:25
Demons Coast	a	01:15	16:10	11:15

1. Which is the fastest train between Gremlin Square and Demons Coast? _____
2. Which train takes the least time to reach Angels Port from Gremlin Square?
   _____
3. Which is the fastest train from Fairy Town to Demons coast? _____
4. Which is the slowest train between Fairy town and Angels port? _____

$\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad$ (4)

PART – 2 : GEOMETRY
(Note – The Drawings are not according to the scale)

Q1. Ansh wants to make a box. He starts with a piece of cardboard whose length is 18cm and width is 12cm. He cuts 4 equal square with sides of 4cm at the four corners and folded at the broken lines to make a box. The volume of the box is _____.
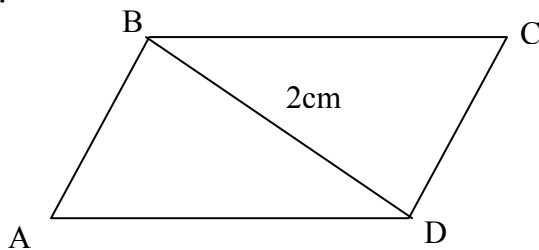
18cm   (3)

4cm

4cm

12cm
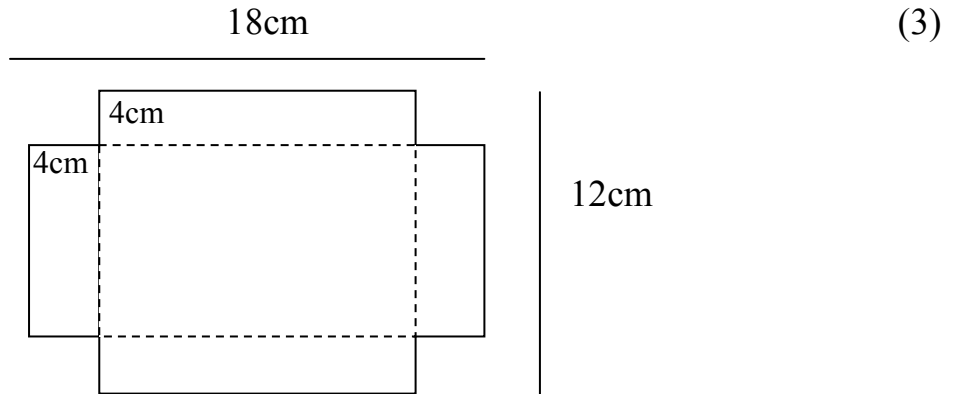
Q2. A picture is copied on to a sheet of paper 8.5cm by 10cm. A 1.5cm margin is left all around. The area of the picture is _____.

(3)

Q3. The angles of ΔBCD are equal. The perimeter of the parallelogram ABCD is _____.
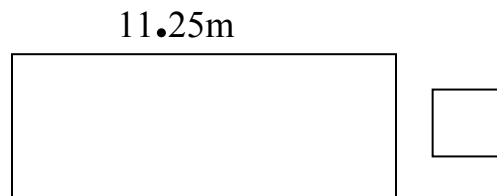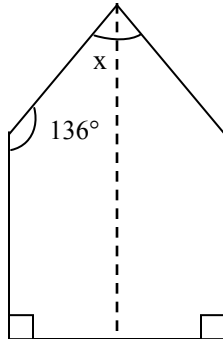
(3)

B   C

2cm

A   D

Q4. The area of a rectangle is 150sq m. Divide the rectangle so that the area of the original rectangle is reduced by 40%. Write the width of the new rectangle in the box provided.

The perimeter of the new rectangle is _____.   (3)

11.25m

Q5. The measure of ∠x in the given figure is _____. The dotted line represents the line of symmetry. (2)

Q6. A one meter cube is to be divided completely into 10cm cubes. All these cubes are to be placed one on top of each other. The height from bottom to the top of these cubes is _____. (2)

Q7. The number of degrees that the hour hand of a clock moves through between noon and 02.30pm of the same day is _____. (2)

Q8. The tables at a party are shaped as a hexagon. If the tables are put together, the number of tables needed for 50 people are _____. (2)

Q9. Two equal sized triangles are cut out of a rectangular card of dimension 16cm by 8cm. the triangles have the maximum possible sides. The area of the remaining paper after the two triangles have been cut is _____. (2)
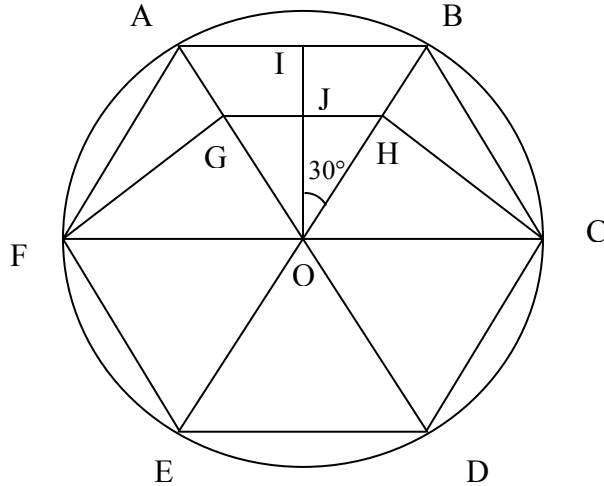
Q10. Ankit wants to find the distance one tyre of his car makes on one 360° rotation. From the following, circle the correct option to show what he is trying to find with this distance.

        Area , Radius , Diameter , Circumference (2)

Q11. Total number of squares in the given figure are _____.

(3)
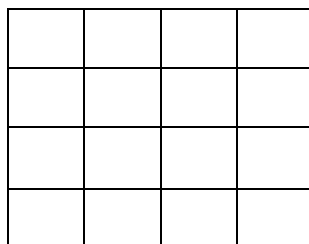
Q12. Look at the given figure and answer the following questions:

1. Number of radii _____.

2. Number of chords _____.

3. Name an arc. _____.

4. Name a pair of adjacent angles _____, _____.

5. Name a pair of complementary angles. _____, _____.

6. Name a pair of supplementary angles. _____, _____.

7. Name a linear pair of angles. _____, _____.

8. BC ǁ _____.

9. IO ⊥ _____.

10. ∠HOC = _____.(vertical angle)

11. Measure of ∠BAF= _____.

12. Measure of ∠GOE = _____.

13. Shade a major segment.

(13)