පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව – උතුරු මැද පළාත
மாகாண கல்வித்திணைக்களம்- வடமத்திய மாகாணம்
Department of Education – North Central Province

Grade	9	**Second Term Test - 2024**	Time :	2 hours 30 minutes

Subject :- ....**Mathematics**..

School Name :- ....

Index Number :- ....
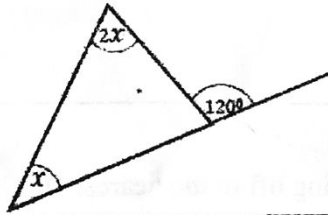

Part I

1) Write in scientific notation 275000

2) The capacity of a tank is 7.5cm³. Write its volume in litres.

3) An electric equipment bought at the price Rs.30,000 was sold at 10% with a loss. Find the loss?
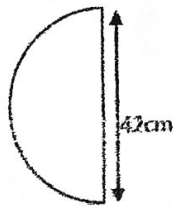
4) Find the value of *x*.

5) Make *q* as the subject of $\frac{3p+q}{2} = r$
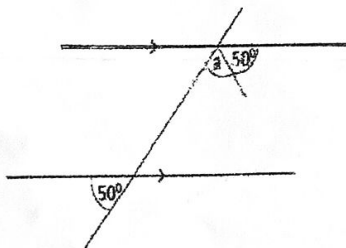
6) Simplify $\frac{3}{7} + 7^{-1}$

7)The price of 5 books is Rs.375. How many books can be bought at Rs.600.

8)Find the arc length of semi circle.

42cm

9)Factorize $81x^2 - 1$

10)Find the value of a

11)Write the answer by rounding off to the nearest 10.

    i. $73 + 31 =$

    ii. $17 \times 31 =$

12 **POR** is a right angled triangle. Find the length of **PR** using the area of the two squares drawn

    on lines PQ and **QR**

13) Fill in the blanks to obtain the answer using the procedure of calculator to get the answer of
37+12.5

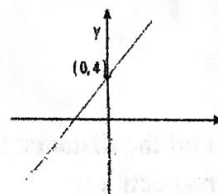| on			+					=	49.5

14)Simplify $(2x + 3)(1 - x)$

15)Simplify $\frac{3}{5}$ of $\frac{1}{9} + \frac{6}{15}$

16)Write the inequality represented on the number line by using x

-3   -2   -1   0   1   2   3   4   5

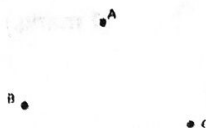17)If the gradient of the coordinate plane is +3, write the equation of that straight line

18)Write the answer as a positive index by simplifying

$$\frac{(y^{-2})^3 \times (y^3)^2}{(y^5)^2}$$

19)Simplify $1111_2 + 101_2 - 11_2$

20)A light post should be placed on a point by equi –distance from three houses A, B and C. Draw a sketch using the knowledge of loci.
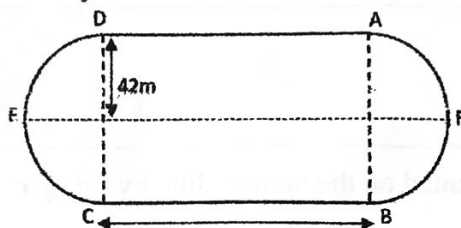
•A

B•

• C

PART 11

(01) Exercises are compulsary to obtain a healthy life.

Ganidu rides the bicycle on the road around the playground close to his house in the evening. In the first day he rides 3 rounds around the ground and 4 rounds in the second day and 5 rounds on the third day respectively.

$$\pi = \frac{22}{7}$$

a) AFB and DEC are semi circular paths.

     I.   What is the arc length of AFB?   (2 marks)

     II.   What is the length of BC?   (2 marks)

     III.   What is the length of EF?   (2 marks)

b)

     I.   Fnd the distance travelled by Ganidu in the first day, second day and third day respectively .   (2 marks)

     II.   Find the first term and the common difference in this number pattern.   (2 marks)

     III.   Find the general term of this number pattern.   (1 mark)

c)   The radius of a wheel of the bicycle shown in the figure is 35cm.

     I.   What is the length travelled, when the wheel is rotating a one round. (the circumference of the wheel when the radius is $r = 2\pi r$)   (3 marks)

     II.   Write the number of rotations of the wheel to the nearest whole number, when Ganidu travels one round around the ground.

         (2 marks)

10% discount for all electric equipments

02) The vendor marks the price of a television set worth RS.120,000 to earn a profit 25%.
I.   What is the marked price of the television set?   (2 marks)
II.   When buying the television set,what is the discount can be taken?
       (2 marks)
III.   If kamal thinks to buy TV set, how much money he has to pay to buy it?
       (2 marks)

IV.   The length, breadth and height of a tank to provide drinking water in a school are
       2m,1m,1m respectively.

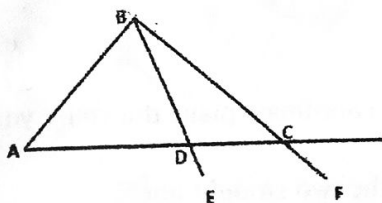When the tank is filled completely,the amount of water in the tank is sufficient for 1000 students.

     I.   Find the volume of the tank in m³.   (2 marks)
     II.   Find the capacity of the tank in litres(l).   (1 mark)
     III.   How many litres are used daily in this tank?   (2 marks)

03) (a)
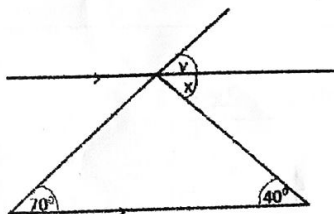
1.) Find the values of x and y giving reasons.
                            (3 marks)

(b)

11.) Study the figure and prove that

$$C\hat{D}E = 180^0 - (A\hat{B}D + B\hat{A}D)$$ (3 marks)

(c) Gagana should collect RS.2200 money to go on the school trip. $\frac{1}{2}$ of that money was

obtained from his father and $\frac{2}{5}$ was from his mother and the rest money was his collected

money.

I.   What is the total fraction that he obtained from his father and mother from whole money ?   (2 marks)
II.   What is the fraction that Gagana gave from whole money?   (1 mark)
III. How much money was spent by Gagana.   (2 marks)

04)

(1) Solve $3\{2 + 3(5 - x)\} + 7 = 40$ (4 marks)

(11) $2m+3n = 7$
     $5m - 3n = 7$
     Solve these simultaneous equations and find the values of **m** and **n**.   (5 marks)

(111) Write as a product of two factors. $K^2 - 17k + 30$.   (2 marks)

05) Use only the cm/mm scale straight edge and the pair of compasses.

I.   Construct the triangle AB=8cm, $B\hat{A}C = 90^0$ and AC = 6cm.   (4 marks)
II.   Construct the loci equi distant from the points A and B.   (2 marks)
III. Name the point of intersection of the loci drawn above and BC as O.   (1 mark)
IV.   Construct the circle by taking the centre as O and the radius as OA.   (2 marks)
V.   Find the area of the triangle ABC.   (2 marks)

06) An incomplete value table is given below to draw the graph $y = 2x - 1$

x	-2	-1	0	1	2	3
y	-5	....	-1	1	....	5

I.   Fill in the blanks in the above table.   (2 marks)
II.   Draw the graph on a suitable coordinate plane.   (4 marks)
III. Find the value of x when $y = 2$.   (2 marks)
IV.   Mark the points A (-1,5) , B (3,-3) on the above coordinate plane drawn by you and join the points A and B.   (2 marks)
V.   Write the coordinate of the intersected point of the two straight lines.   (1 mark)