PROVINCIAL DEPARTMENT OF EDUCATION
NORTHERN PROVINCE
Year end Examination – 2019
Mathematics

Index No: ....

Grade - 9

32 T I

Time : 2.30 Hours

Index Number...................................

Supervisor Signature ....

Instructions

❖ Write your index number correctly

❖ Answer all questions in Part I .

❖ Answer first question and other four questions in Part II

Important

➢ Part I has 20 questions each has 2 marks totally 40 marks given.

➢ Part II first question has 16 marks and other 4 questions each has 11 marks totally 60 marks given.

Marking Examiner

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Cross Examiner

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Examiner use only

Part	Question	Marks
I	1 – 20	
II	1	
	2	
	3	
	4	
	5	
	Total	

Answer the all questions

1) Write 4.05×10^{-2} in general form.

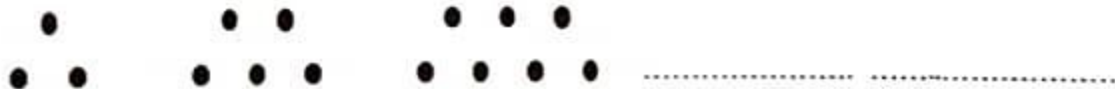2) The diameter of a ball is 3.715cm. Round off this value to

i) The nearest first decimal place.

ii) The nearest whole number

3) Fill in the box. $1101_{two} - \boxed{}_{two} = 11001_{two}$

4) Write $-3x^{-2}$ in positive indices.

5)

Draw the next two patterns

6) Two circles of the same size are shown in the figure. Which is the figure most part of shaded and give the reason for your answer
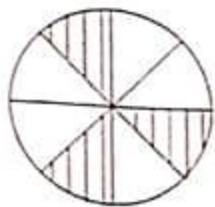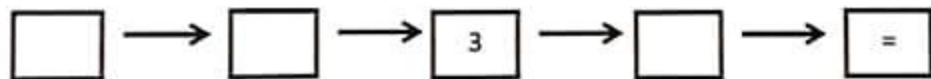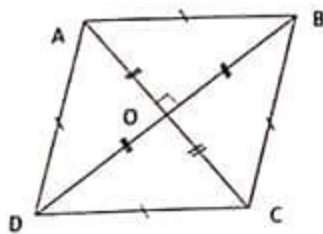

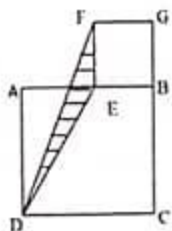Fig 1   Fig II

7) Find the value using factors $\frac{22}{7} \times 8 - \frac{22}{7}$

8) The order in which the keys need to be pressed to express $\sqrt{36}$ is given below. Fill in the blanks.

$\boxed{} \longrightarrow \boxed{} \longrightarrow \boxed{3} \longrightarrow \boxed{} \longrightarrow \boxed{=}$

9) If the diagonal BD = 16cm and AC = 12cm , Find the perimeter of the rhombus ABCD

10) The perimeter of the square BEFG is 12cm and the area of a square ABCD is 81cm^2. Find the area of shaded part in figure.


11) Simplify $\dfrac{3}{a-b} - \dfrac{-1}{b-a}$

12) Kannan has 70 rupees. He buys a book for x rupees and a pen for 15 rupees. Construct the inequality when if the balance is available at the time of purchase

13) A,B,C are three cities, B is 90km east of A and C is 105km away from B on a bearing of 045°. Draw a rough sketch based on the above information

18) A cuboid shaped container base of area 240cm^2. An amount of 9.6l of water has been filled into this container. Find the hight of the water in the container
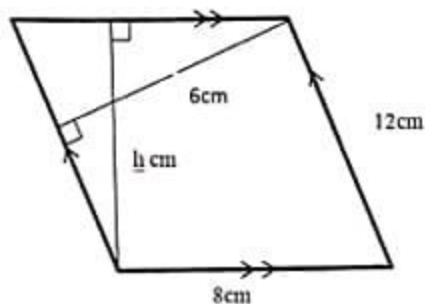
19) If the price of television set imported from Japan is 11 172 rupees, What is its value in Japan yens (1 yen=Rs1.33)
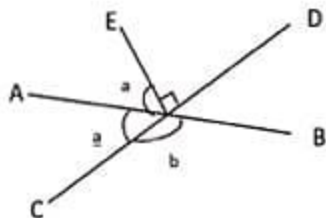
20) Find the value of a
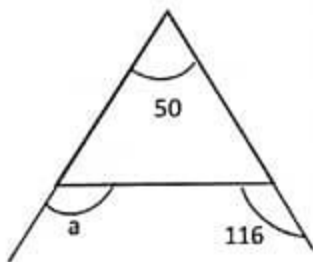
14) The probability of being good in mangoes in the basket $\frac{21}{25}$ what is the probability of being defective

15) Find the value of h

16) Simplify $3(1 - 2y) + 3y = 4$

17) AB and CD are two straight lines. Find the value of a and b

2) $\varepsilon = \{1,2,3,4,5,6\}$ $\varepsilon = \{1,2,3,4,5,6\}$ $\varepsilon = \{a,b,c,d,e,f\}$

  $A = \{1,2,3\}$ $P = \{2,3,4,6\}$ $X = \{b,c,d,e,f\}$

  $B = \{4,5\}$ $Q = \{4,5\}$ $Y = \{c,d,e\}$

(i)   By considering the above 3 types of sets and represent the following information in the given
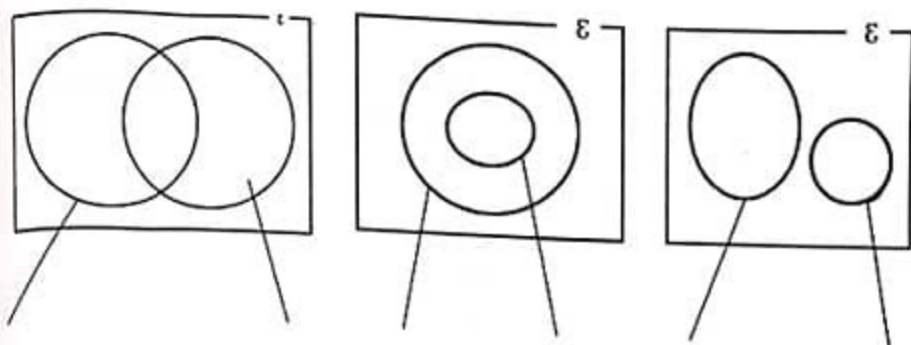
(ii) From the above sets A,B,P,Q,X,Y in terms of their elements and then write all pairs of equal sets and all pairs of equivalent sets.

(iii) Write sets Q' in terms of its elements

(iv) What is the relationship between sets X and Y
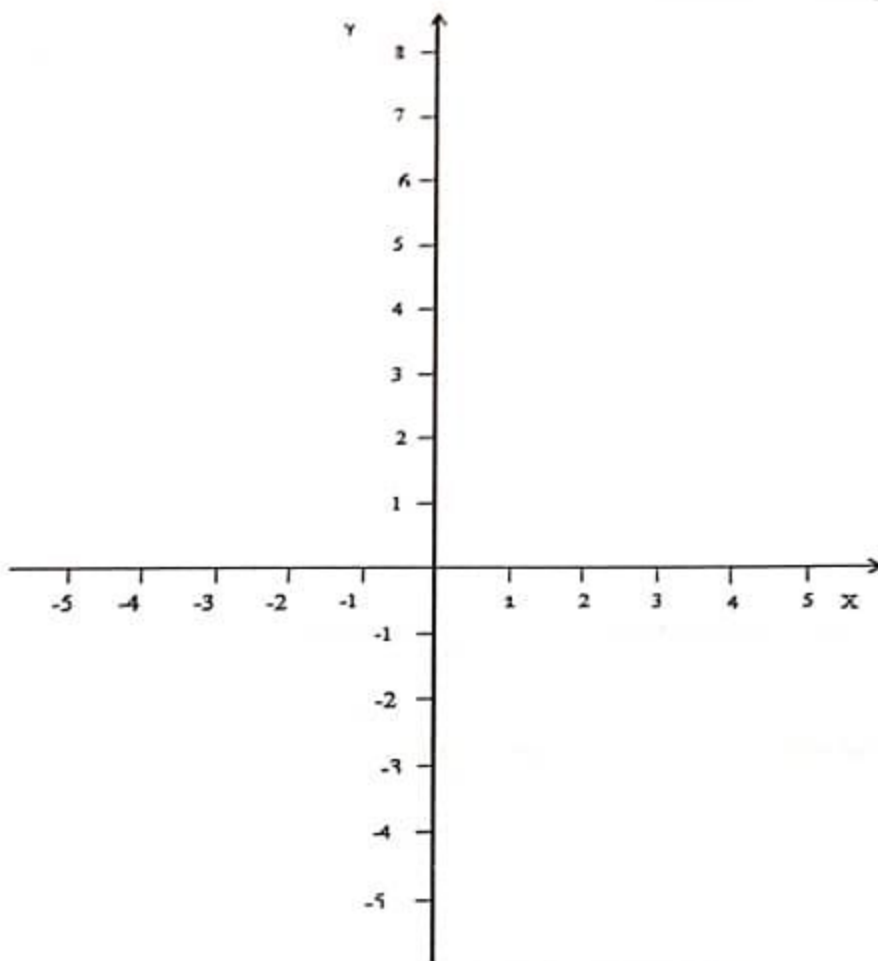
(v) What are the numbers of subsets for the set A

$(6 + 2 + 1 + 1 + 1 = 11)$

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03)(a) Make y the subject of the formula $y - 2x = 4$

(b) (i) Consider the above function and Fill in the blanks in the table by showing the relevant working

x	3	-2	-1	0	1
y	-2	....	......	......	6

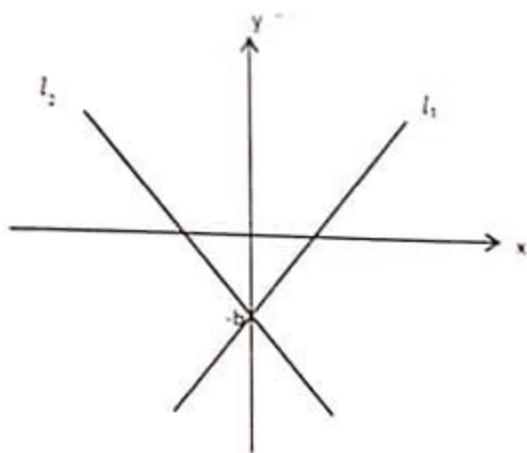(ii) Draw the graph of the above function on a Cartesian plane

(iii) If the point $(2, y)$ is located on the above line, find the value of y.

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(iv)   Write the equation of the straight line which is parallel to the line drawn in each other

(v)   Select the suitable function of l_1, l_2

1. $y = ax + b$

2. $y = ax - b$

3. $y = -ax + b$

4. $y = -ax - b$

$$(1 + 3 + 3 + 1 + 1 + 2 = 11)$$

04) Use only a straight edge with a cm/mm scale and pair of compasses for the following constructions.

(i) Draw a straight line segment AB of length 8 cm

(ii) Construct the triangle ABC such that $\angle ABC = 120^0$ and BC = 5cm

(iii) Construct the locus that equidistance to the points A and B

(iv) Name the intersection point as O of the line AB

(v) Draw the perpendicular line AB to the line AB extended by C . Which represents the intersection point E?

(vi) Given the relationship between the flow obtained in question (iii) and the line CE

$$(1 + 3 + 2 + 1 + 2 + 2 = 11)$$