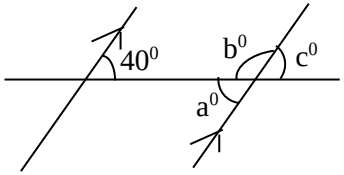
Model Question First Term - 2081

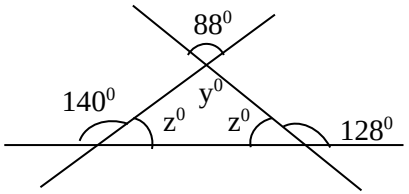
Class : 7 **F.M. 50**
Time : 2Hrs **Sub: Com. Mathematic** **P.M.20**

Attempt all the questions.

1. If A = {prime number less than 10}, B = {odd number less than 10}, C {even number less than 10} are given set;
   a) List the element of set A, B and C. [1]
   b) Which of the above set are equivalent set? [1]
   c) Define overlapping set. [1]
2. The ratio of boys and girls in a school is 1:2. If the total number of student in a school is 600;
   a) Find the total number of boys. [1]
   b) Find the total number of girls. [1]
   c) If 6, x, 24 and 36 are in proportion; find the value of x. [2]
3. a) 10 workers can complete a piece of work in 18 days. How many workers are required to complete the work in 12 days? [3]
   b) The cost of 8kg of orange is Rs. 720, what is the cost of 6kg of orange? [2]
   c) Divide Rs. 65 in the ratio of 2:3. [2]
4. There are 40 student in a class and 16 of them are girls;
   a) Find the ratio of girls and total number of student. [1]
   b) Find the ratio of boys and total number of student. [1]
   c) Find the ration of girls and boys. [1]
5. Chandrakala has square garden of length 18m;
   a) Find its perimeter. [2]
   b) Find the length of wire required to fence it with 4 rounds. [2]
   c) If the rate of cost of fencing is Rs. 25 per meter, find the total cost of fencing. [1]
6. a) Evaluate: $4^{1/2}$ [1]
   b) Simplify: $(x^{p-q})^r \times (x^{q-r})^p \times (x^{r-p})^q$ [2]
   c) The length and breadth of rectangle is (x+2)m and (x+3)m respectively. Find the area of rectangle. [2]
7. a) If a+b = 3 and ab = 2, find the value of a^2+b^2. [2]
   b) If a = $4x^3y^2$, b = $3x^2y^3$ and c = 6xy, find the value of $\frac{ab}{c}$. [2]
8. a) What is binomial expression? [1]
   b) Subtract: $2x^2y$ from $9x^2y$. [1]
9. a) What is the sum of adjacent angle in a straight line? [1]
   b) A pair of supplementary angle are in the ratio of 2:3. Find them. [2]
   c) Find the value of unknown angle. [3]



10. a) Write the complement and supplement of 75^0. [2]
    b) Define right angle. [1]
11. a) Find the sizes of unknown angle. [3]



    b) Construct an angle 60^0 and 90^0 with the help of compasses. [2]
12. The marks obtain by Rajesh in first terminal exam are given below;

Subject	Math	Science	Nepali	English	Social
Marks	45	40	35	40	30

    a) Make the simple bar graph. [2]
    b) In which subject Rajesh scored the highest marks? [1]

Good Luck

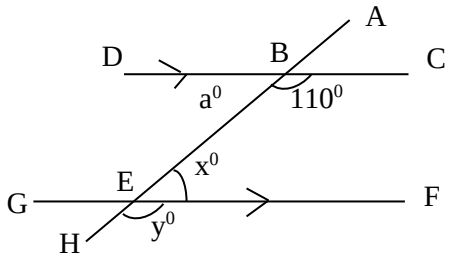
Model Question Second Term - 2081

Class : 7 **F.M. 50**
Time : 2Hrs **Sub: Com. Mathematic** **P.M.20**

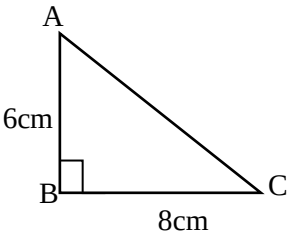
Attempt all the questions.

1. Read the questions and answer.
   a) Two given sets are A = {1, 2, 3, 4, 5}, B = {5, 10, 15};
      i) Are the sets A and B disjoin or overlapping? [1]
      ii) Write the cardinal number of set B. [1]
      iii) Define overlapping set. [1]

2. a) The ratio of length and breadth of a room is 3:2, if the room is 18ft long; find the following;
      i) The breadth of the room. [1]
      ii) The perimeter of the room. [2]
      iii) The area of the floor of the room. [2]
   b) 24 students in a hostel had provisions enough for 30 days. If 26 more students join the hostel, how long would the provisions last? [3]
3. a) 45, 60 and 75 are three given whole numbers;
      i) Write the factors of these number separately. [2]
      ii) Find the HCF of these numbers. [2]
      iii) Write the full form of HCF. [1]
   b) What should be added to (-10) to get (+10)? [1]
4. a) Mrs. Kanchhi Tamang has a vegetable garden of length 30m and breadth 18m;
      i) Find its perimeter. [1]
      ii) Find the length of wire required to fence it with 3 round. [2]
   b) The surface area of a cube is $24cm^2$;
      i) Find the length of its edge. [1]
      ii) Find its volume. [1]
5. a) Identify the expression and write the degree of expression $(3x^2-2y^2+4)$. [2]
   b) Find the product to $3p(2p^2-1)$. [1]
   c) If $p - \frac{1}{p} = 3$, find the value of $p^2 + \frac{1}{p^2}$. [2]
6. The sum of length and breadth of room is 25m;
   a) Write the equation. [1]
   b) If the length of room is 12cm. Find the breadth. [1]
   c) Solve the inequality $x + 2 > 5$. [1]
7. Mr. Hira asked some questions to his students are given below then answer this question;
   a) Which product is law of indices? [1]
      i) $a^m \times a^n = a^{m+n}$ ii) $a^m \div a^n = a^{m-n}$ iii) $(\frac{a}{b})^m = \frac{a^m}{b^m}$ iv) $a^c = 1$
   b) Evaluate: $25^{1/2}$ [1]
8. A(3, 6), B(2, 4) and C(5, 7) are the vertices of ΔABC. Find the coordination of its image under the reflection about x-axis. [2]
9. a) Construct a triangle ΔABC in which AB = 5cm, $\angle A = 60^0$ and $\angle B = 30^0$. [3]
   b) Which type of triangle is this on the basic of side? [1]
   c) What is the sum of interior angle of a triangle? [1]
10.



   a) In the above given figure;
      i) Find the value of x^0 and y^0. [2]
      ii) Find the alternate angle of $\angle DBE$. [1]
      iii) Write the parallel line of DC. [1]
11. a) Find the value of unknown side of given right angle. [2]
   b) Write the relation between hypogenous, base and perpendicular in Pythagoras theorem. [1]
   b) What is the measure of all interior angle of right angled triangle? [1]



12. a) Find the average of given data 20, 11, 14, 12, 15. [12]
   b) Write the formula of mean. [1]
   c) Write the tally of 14. [1]

Good Luck

Model Question Third Term - 2081

Class : 7 **F.M. 50**
Time : 2Hrs **Sub: Com. Mathematic** **P.M.20**

Attempt all the questions.

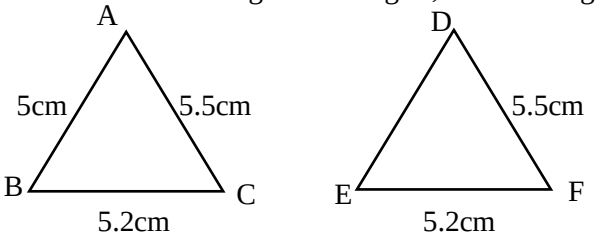
1. A = {Natural numbers up to 5}, B = {Factors of 6}, C = {Vowel letters of English alphabet} and D = {Factors of 12} are give;
   a) Which of the four sets are equivalent sets? [1]
   b) Write the value of n(B). [1]
   c) Is set B a proper subset of set D? Write with reason. [1]
2. a) Calculate the cost of 30 pens if Ram bought 12 pens for Rs. 132. [2]
   b) What is integer? [1]
   c) Simplify: (+9) + (-7) – (+2) [1]
   d) Identify the rational number: $\sqrt{2}$, $\sqrt{16}$, $\frac{2}{7}$ and $\sqrt{18}$[1]
3. Students of class 7 collected 6 red balloons and 18 yellow balloons in order to decorate their classroom for celebrating children's day then;
   a) Find the ratio of numbers of red and yellow balloons. [1]
   b) If 6 of the yellow balloons got burst while inflating them, find the new ratio of red and yellow. [2]
4. Sita has 48 apples, 60 bananas and 96 guavas then;
   a) Find the maximum number of people to whom these fruits can be equally distributed. [2]
   b) What is the share of each person? [1]
   c) Ramesh bought $4\frac{1}{4}$ kg of potatoes, and $5\frac{1}{2}$ kg of tomatoes from a shop. Find the total weight of vegetables bought by him. [2]
   d) What will be the profit if a blanket bought for Rs. C.P is sold for Rs. S.P. If S.P. is greater than C.P.? [1]
5. The school management committee of BSS planned to construct a building having length 20m, breadth 15m and height 10m respectively, the;
   a) Write the formula to calculate the area of base of building. [1]
   b) Calculate the total volume of building. [1]
   c) How many rooms having dimensions 5m×4m can be constructed in that building? [2]
   d) If the cost of constructing one room is Rs. 60,000 then, calculate the total cost of constructing all the rooms in the building. [2]
6. a) Find the product of ; (a+b) (a-b) [1]
   b) What should be the power of 5 so that it's value will be 1? [1]
7. a) Solve and show it in number line; $3x+5 \leq 20$ [2]
   b) If the perimeter of a rectangular room is (12x+18y)m and its breadth is (4x+7y)m, then find its length. [2]

8.a) If the sum of two consecutive odd number is 36. Find them. [1]
   b) Solve the given equation and show in graph. [2]

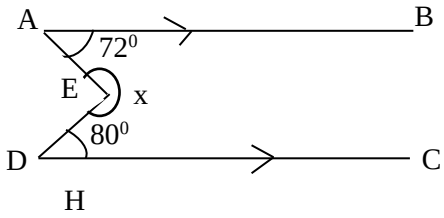
y = x – 2

x			
y			

9. a) Define vertically opposite angles. [1]
   b) Find the size of an angle which is four times its compliment. [1]
   c) If $(2x-25)^0$ and $(x+55)^0$ are a pair of alternate angles, find any one of them. [2]
10. a) If ΔABC and ΔDEF are congruent triangles, find the length of sid DE. [1]



   b) Find the value of x. [3]



   c) Construct a triangle xyz in which xy = 5.5cm, yz = 6cm and <y = 60^0. [3]
11. a) Plot the points P(2, -2), Q (6, -2) & R (6, 4) in graph paper. [2]
   b) What should be the co-ordinate of point 'S' so that PQRS becomes a perfect rectangle? [1]
12. a) Find the average; 20, 11, 14, 15 [2]
   b) Write tally marks for 8. [1]

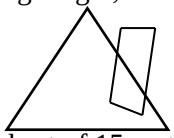
Good Luck

Model Question Annual Term - 2081

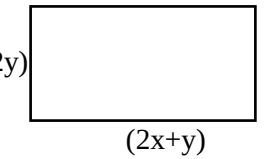
Class : 7 **F.M. 50**
Time : 2Hrs **Sub: Com. Mathematic** **P.M.20**

Attempt all the questions.

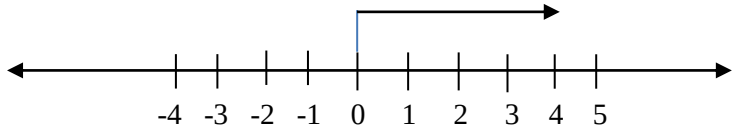
1. P = {Factors of 12}, Q = {multiples of 3 less than 15}, R = {odd number less than 12};
   a) Which of the above sets are equivalent set? [1]
   b) State with reason, whether the set Q is finite or infinite set. [1]
   c) Write any two subsets of set R. [1]
2. In a quiz competition held in BSS, eight teams are participated. The rules of quiz competition are given;
   i) for each correct answer, +12 points.
   ii) for each incorrect answer, -5 points
   iii) for not giving answer, 0 (zero points)
   a) Team Devchuli answer 10 questions correctly, and answered 4 questions incorrectly. How many points did the team Devchuli collected? [2]
   b) Find the square root of score collected by team Devchuli. [1]
   c) Define ratio. [1]
3. A shopkeeper sold 8 copies for Rs. 320;
   a) What is the selling price of a copy? [1]
   b) If he purchased a copy for Rs. 30. Find his profit or loss percent. [2]
   c) To make a profit of Rs. 56, at what rate a copy should be sold? [1]
4. The monthly income of Mrs. Mahamaya is Rs. 60,000, she spends $\frac{2}{5}$ part of her income in education, $\frac{1}{3}$ parts in food and saves rest in a bank every month.
   a) What parts of her income does she spend? [2]
   b) How much money does she save in the bank in a year? [2]
   c) Express $\frac{2}{5}$ in decimal. [1]
   d) Identify the rational number; $\frac{1}{3}, \sqrt{3}, \frac{2}{3}, \sqrt{6}$ [1]
5. Umesh Pradhan bought a triangular shaped piece of land having sides 20m, 30m and 40m. If he built a cuboidal building having length, breadth and height 10m, 8m and 12m respectively on that land;



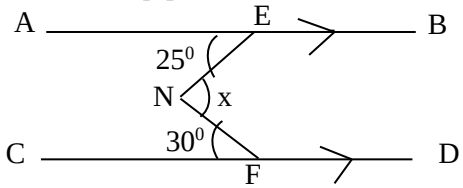
   a) Find the perimeter of land. [1]
   b) Find the volume of building. [1]
   c) While fencing his land 2 rounds he was short of 15 meters wire, how many meters of wire did he purchase? [2]
   d) Write the relation between diameter and circumference of a circle. [1]
6. A rectangular playgroud is show in figure with its length (2x+y)m and breadth (x+2y)m.



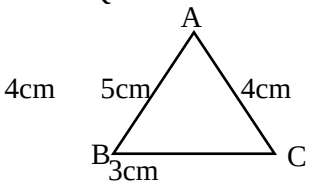
   a) What is the area of this playground? [2]
   b) If x = 4 and y = 2, which of the length or breadth should be increased by how much so that a square playground is made? [2]
7. a) What is the value of y^0, if $y \neq 0$. [1]
   b) Simplify; $(x^{p-q})^r$, $(x^{q-r})^p$. $(x^{r-p})^q$ [2]
8. a) Write down the inequality represented by the given number line. [1]

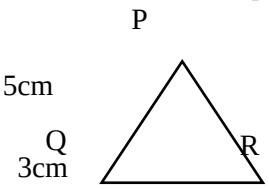


   b) Solve $3x - 2 \leq 10$ and show in number line. [2]
9. a) Write the relationship between <NFC and <NFD. [1]
   b) Find the value of x. [2]

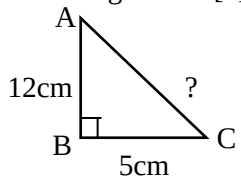


10. a) Define co-ordinate of a point. [1]
    b) A(3, 6), B(2, 4) and C(5, 7) are the vertices of ΔABC. Find the co-ordinates of its image under the reflcetion about x-axis and show in grahph. [3]
    c) Are ΔPQR and ΔABC congruent? Write with reason. [2]





11. a) Are all rhombus square? [1]
    b) Find the missing side. [2]



12. The table given below shows the number of student of a school from class 6 to 10.

Class	6	7	8	9	10
No. of student	20	30	35	25	15

    a) Show the above data in line graph. [2]
    b) On which class is the number of student maximum? [1]

Good Luck