

## Model Question First Term - 2081

Class : 7  
Time : 2Hrs

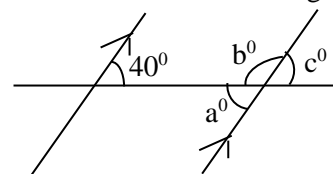
Sub: Com. Mathematic

F.M. 50  
P.M.20

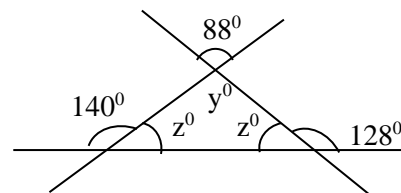
**Attempt all the questions.**

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

- c) Find the value of unknown angle. [3]



- Write the complement and supplement of  $75^\circ$ . [2]
  - Define right angle. [1]
- Find the sizes of unknown angle. [3]



- Construct an angle  $60^\circ$  and  $90^\circ$  with the help of compasses. [2]
- The marks obtain by Rajesh in first terminal exam are given below;

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

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

**Good Luck**

## Model Question Second Term - 2081

**Class : 7**

**Time : 2Hrs**

**Sub: Com. Mathematic**

**F.M. 50**

**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 disjoint 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  $24\text{cm}^2$ ;
  - 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)  $\left(\frac{a}{b}\right)^m = \frac{a^m}{b^m}$  iv)  $a^c = 1$

b) Evaluate:  $25^{1/2}$  [1]

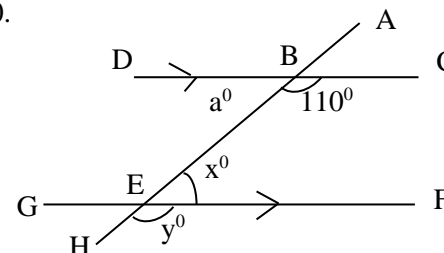
8. A(3, 6), B(2, 4) and C(5, 7) are the vertices of  $\triangle ABC$ . Find the coordination of its image under the reflection about x-axis. [2]

9. a) Construct a triangle  $\triangle ABC$  in which  $AB = 5\text{cm}$ ,  $\angle A = 60^\circ$  and  $\angle B = 30^\circ$ . [3]

b) Which type of triangle is this on the basis 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  $x^\circ$  and  $y^\circ$ . [2]

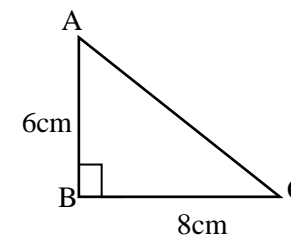
ii) Find the alternate angle of  $\angle DBE$ . [1]

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 hypotenuse, 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**

**Time : 2Hrs**

**Sub: Com. Mathematic**

**F.M. 50**

**P.M.20**

**Attempt all the questions.**

1.  $A = \{\text{Natural numbers up to 5}\}$ ,  $B = \{\text{Factors of 6}\}$ ,  $C = \{\text{Vowel letters of English alphabet}\}$  and  $D = \{\text{Factors of 12}\}$  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]

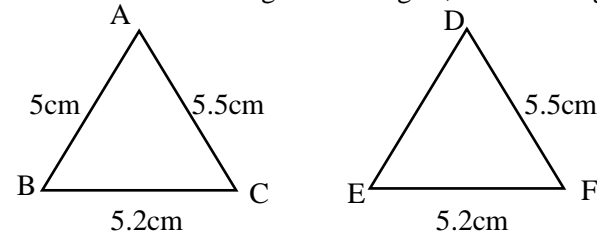
8.a) If the sum of two consecutive odd number is 36. Find them. [1]

b) Solve the given equation and show in graph. [2]

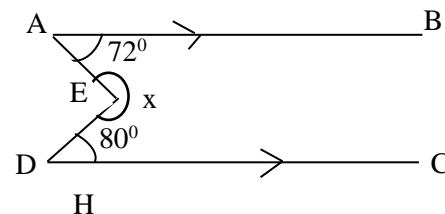
$$y = x - 2$$

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  $(2x-25)^\circ$  and  $(x+55)^\circ$  are a pair of alternate angles, find any one of them. [2]
10. a) If  $\triangle ABC$  and  $\triangle DEF$  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  $\angle y = 60^\circ$ . [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  
Time : 2Hrs

Sub: Com. Mathematic

F.M. 50  
P.M.20

**Attempt all the questions.**

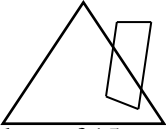
- $P = \{\text{Factors of } 12\}$ ,  $Q = \{\text{multiples of } 3 \text{ less than } 15\}$ ,  $R = \{\text{odd number less than } 12\}$ ;

  - Which of the above sets are equivalent set? [1]
  - State with reason, whether the set  $Q$  is finite or infinite set. [1]
  - Write any two subsets of set  $R$ . [1]
- In a quiz competition held in BSS, eight teams are participated. The rules of quiz competition are given;

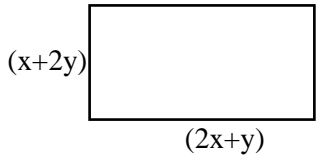
  - for each correct answer, +12 points.
  - for each incorrect answer, -5 points
  - for not giving answer, 0 (zero points)
  - Team Devchuli answer 10 questions correctly, and answered 4 questions incorrectly. How many points did the team Devchuli collected? [2]
  - Find the square root of score collected by team Devchuli. [1]
  - Define ratio. [1]
- A shopkeeper sold 8 copies for Rs. 320;

  - What is the selling price of a copy? [1]
  - If he purchased a copy for Rs. 30. Find his profit or loss percent. [2]
  - To make a profit of Rs. 56, at what rate a copy should be sold? [1]
- 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.

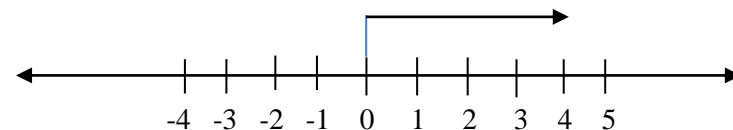
  - What parts of her income does she spend? [2]
  - How much money does she save in the bank in a year? [2]
  - Express  $\frac{2}{5}$  in decimal. [1]
  - Identify the rational number;  $\frac{1}{3}, \sqrt{3}, \frac{2}{3}, \sqrt{6}$  [1]
- Umesh Pradhan bought a triangular shaped piece of land having sides 20m, 30m and 40m. If he built a cuboidal building having length, breadth and height 10m, 8m and 12m respectively on that land;

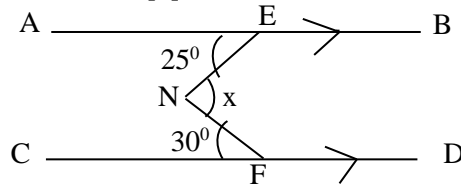

  - Find the perimeter of land. [1]
  - Find the volume of building. [1]
  - While fencing his land 2 rounds he was short of 15 meters wire, how many meters of wire did he purchase? [2]
  - Write the relation between diameter and circumference of a circle. [1]

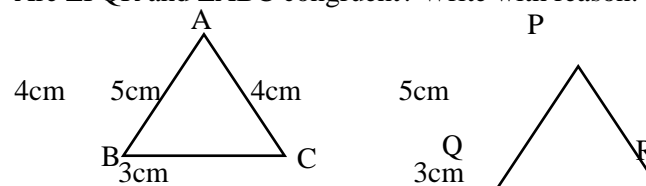
- A rectangular playground is show in figure with its length  $(2x+y)m$  and breadth  $(x+2y)m$ .


  - What is the area of this playground? [2]
  - 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]

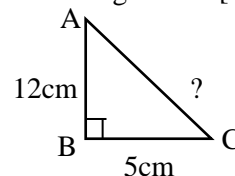
- What is the value of  $y^0$ , if  $y \neq 0$ . [1]
  - Simplify;  $(x^{p-q})^r, (x^{q-r})^p, (x^{r-p})^q$  [2]
- Write down the inequality represented by the given number line. [1]



- Solve  $3x - 2 \leq 10$  and show in number line. [2]
- Write the relationship between  $\angle NFC$  and  $\angle NFD$ . [1]
    - Find the value of  $x$ . [2]
- 
- Define co-ordinate of a point. [1]
    - $A(3, 6)$ ,  $B(2, 4)$  and  $C(5, 7)$  are the vertices of  $\triangle ABC$ . Find the co-ordinates of its image under the reflection about x-axis and show in graph. [3]
    - Are  $\triangle PQR$  and  $\triangle ABC$  congruent? Write with reason. [2]



- Are all rhombus square? [1]
  - Find the missing side. [2]



- 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

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

**Good Luck**