Mathematics **Writing Time : 2 Hours**
Total Marks : 100

READ THE FOLLOWING DIRECTIONS CAREFULLY:

1. Do **not** write for the first **fifteen minutes.** This time is to be spent reading the questions. After having read the questions you will be given **two** hours to answer all questions.

2. In this **question paper**, you will find 15 questions in Section A and 14 questions in Section B (numbered from 2 to 15). You must answer **all** the questions. Each question in Section A is worth **2 marks**.

3. All answers for Section 'A' and 'B' **must** be written in the answer sheets provided by the school.

4. Once the examination begins, you will not be allowed to ask questions, speak with others or move around.

5. If you finish before the time is over, close the Answer Booklet, and sit quietly.

DO NOT forget to write your name, class/section and the name of your school on the answer sheet(s).

IF YOU HAVE ANY QUESTIONS, ASK THEM NOW!

TURN PAGE

(15 Minutes is to be allowed for reading as well as for teachers on duty to explain the instructions)

SECTION A
25 Questions [50 marks]
Answer ALL questions

Direction: Each question in this section is followed by three possible choices of answers. Choose the correct answer and write it down in the answer sheet provided by the school.

Question 1.

a) If the numerator of a fraction is greater than the denominator, it is named as:

A Proper fraction

B Improper fraction

C Mixed number

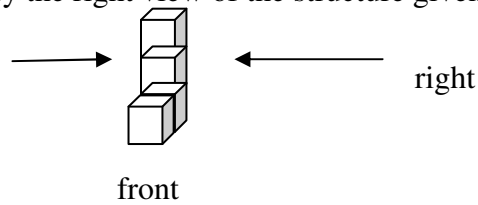
b) Which of the following is an equivalent fraction for 25%?

A $\frac{1}{4}$

B $\frac{1}{2}$

C $\frac{3}{4}$

c) Identify the right view of the structure given below.



A

B

C

d) Which one of the following estimation is incorrect.

A 1950 x 19 = 37,050

B 6.2 × 3.8 = 23.56

C 2156 x 28 = 86,768

e) The sum of $\frac{2}{3}$ and $\frac{1}{4}$ is

A $\frac{11}{12}$

B $\frac{3}{7}$

C $\frac{5}{12}$

f) The perimeter of a regular pentagon is 9 m. How long is each side?

A 1.5m

B 1.8m

C 1.8cm

g) If a parallelogram has the height of 4cm and area of 24 cm^2, then the length of its base is:

A 6 cm^2

B 6 m

C 6 cm

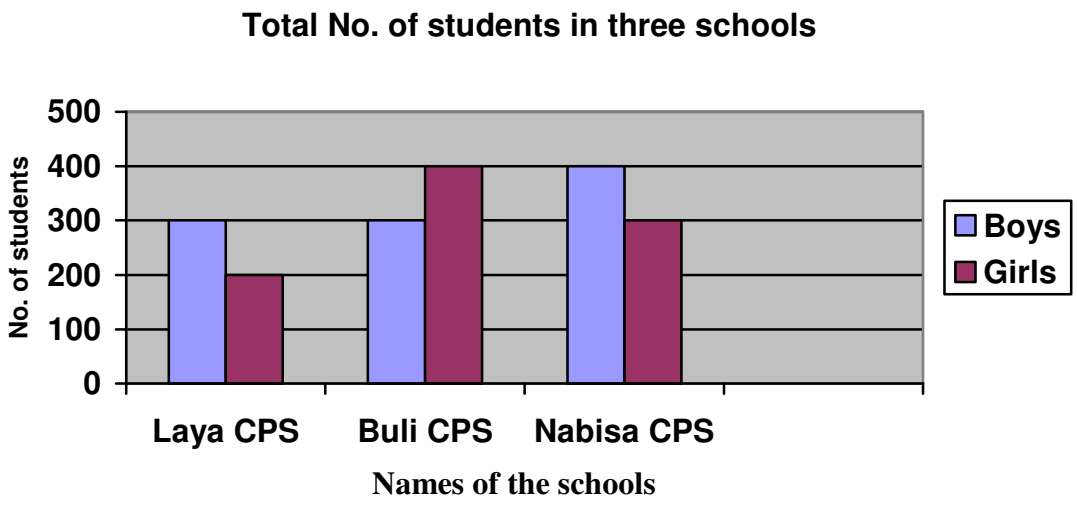
h) There are 40 students in a class and 45% of them are girls. How many boys are there?

A 55 boys

B 22 boys

C 18 boys

i) The graph below shows the number of boys and girls of three different schools. Find the total number of girls of the three schools.



A. 1000 girls

B. 1900 girls

C. 900 girls

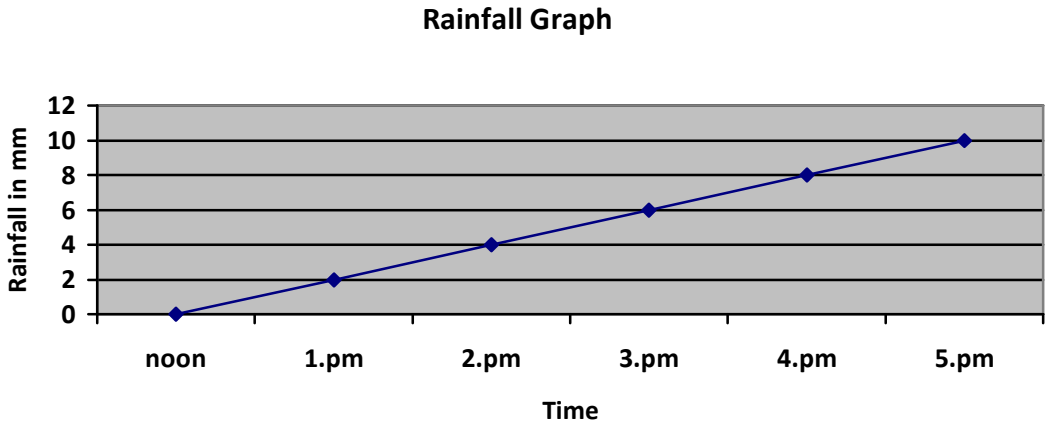
j) Which one of the following pairs is not a pair of equivalent ratios?

A. 4:5 and 8:10

B. 7:10 and 5:8

C. 3:7 and 9:21

k) Which one of the statements below best describes the trend in this graph?



A. Rainfall increases steadily from noon to 5.pm.

B. The rainfall is constant throughout the afternoon.

C. Rainfall decreases steadily from noon to 5.pm.

l) Which of the following weights is arranged from the lightest to the heaviest?

A. 1.82 t, 1500 kg, 1.2 t, 3.5 kg, 350 g

B. 350 g, 3.5 kg, 1500 kg, 1.2t, 1.82 t

C. 350 g, 35 kg, 1.2 t, 1500 kg, 1.82 t

m) The set of common factors of 24 and 32 is:

A. {1, 2, 3, 4, 8}

B. {1,2,3,6,8}

C. {1,2,4,8}

n) Which one of the following expressions has unnecessary brackets?

A. $(4.8 - 2.4) \times 2 + 9.1 \div 1.3$

B. $20.5 + 3.8 - 7.8 \times (5.4 \div 3)$

C. $60.1 \times (40.1 + 20.7) \div 2$

o) The mean of the following set of numbers is 8. What is the missing number?

10, 15, 2, 5, 7, __.

A. 9

B. 7

C. 10

SECTION B

(**Answer all the questions in this section**)

Question 2.

a) When you add a fourth with some eighths, you get a half as the sum. Write the correct mathematical equation for this. **[2]**

b) Use sketch diagrams of fraction strips to add:

$\frac{2}{5}+\frac{3}{10}$ **[3]**

Question 3.

a) Write $\frac{8}{100}$ as a decimal. **[1]**

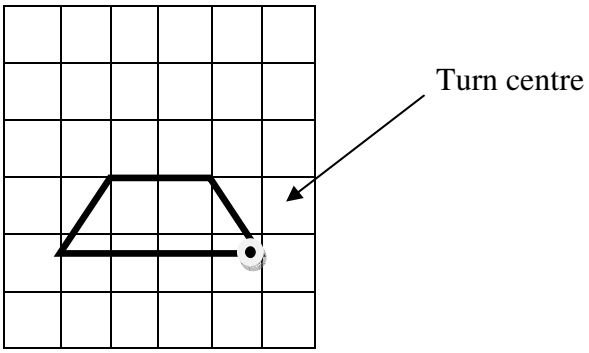
b) Draw a picture to show that $\frac{2}{3}>\frac{2}{4}$? **[2]**

c) Arrange the following decimals from the least to the greatest.

5.23, 5.32, 2.35, 2.53, 3.52 **[2]**

Question 4.

a) Copy the shape in the provided grid paper and rotate it $\frac{1}{4}$ clock wise around the turn center. **[2]**



b) Draw a cube structure using six cubes. Draw the front view and the top view of your structure. **[3]**

Question 5.

a) Name the two shapes given below. **[2]**

i) ii)

b) Draw any two angles. Show one of the angles with its bisector and the other with a dividing line which does not bisect it. Label your diagrams. **[3]**

Question 6.

a) Kinzang Dorji has 7 kg of rice. He keeps half for himself and divides the rest among five friends. **[2]**

i) How much does he keep?

ii) How much does each friend get?

b) Find the value of : **[3]**

i) $14 - 3.5 \times 9.4 \div 4.7$ ii) $(14 - 3.5) \times 9.4 \div 4.7$

Question 7.

a) Draw hundredths grids to model and divide. **[3]**

$2 \div 0.5$

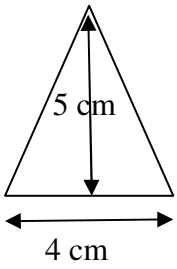
b) Wangmo divided 2 by 0.6 and she got 0.33 as the answer. The answer is wrong. Explain why the answer is wrong? **[2]**

Question 8.

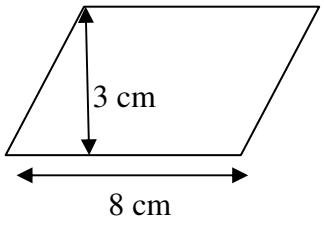
a) What is the formula to find the volume of a cuboid? **[1]**

b) Find the area of each diagram. **[4]**

i)



ii)



Question 9.

a) A triangle and a parallelogram have the same base, but the parallelogram is twice as high as the triangle. How do the areas of the triangle and the parallelogram compare. Show your work. **[3]**

b) How many hours time difference is there between 13:30 hours and 19:30 hours on the same day? **[2]**

Question 10.

a) Write two equivalent ratios of 3:4. **[2]**

b) In class VI, the ratio of football players to badminton players is 35:7. In class V, the ratio of football players to badminton players is 30:5. Find out which class has the highest proportion of football players? **[3]**

Question 11.

a) Copy and complete the chart below. **[3]**

	Ratio	Fraction	Percentage
33 to 100			
0.06			

b) Using the examples given below, find out which is the better price for the buyer, if chocolate bars are of same size and quality? How do you know? **[2]**

i) 3 chocolate bars for Nu.250

ii) 5 chocolate bars for Nu.400

Question 12.

a) Write each in standard form. **[3]**

i) Three hundred eight million, eighty seven thousand and eighty six.

ii) Three billion, forty two million eight.

iii) Six million, three sixty five thousand and two hundred five.

b) Draw a number line and show the following integers on the number line. **[2**

i) –6

ii) 2

iii) Opposite of 4

iv) Opposite of –5

Question 13.

a) Write each of the following in an expanded form. **[3]**

i) 3,057,208

ii) 206,702,353

iii) 3,023,423,001

b) In a group of 10,000 people, about 4500 are left handed. What percentage of these people are left handed? Write this percentage as decimal. **[2]**

Question 14.

a) Four families compared the rent they paid. Their monthly rents were Nu. 4500, Nu.6000, Nu.5200, and Nu. 6000. What is the mode for given information? **[1]**

b) i) Create a stem and leaf plot to show these temperatures. **[2]**

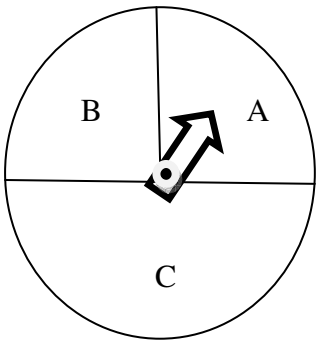
26, 23, 17, 34, 27, 15, 30, 24, 28, 19, 32, 21, 35, 32

ii) Sketch a bar graph of the above data in stem and leaf plot . **[2]**

Question 15.

a) When Dorji cycles, he travels 50 m per minute. When he rides the bike, he travels100 m per minute. Draw two line graphs on the same axes to compare how far Dorji travels by cycle and by bike in 10 minutes. Label your two graphs. **[3]**

b) What is the probability of? **[2]**



i) Spinning A in the spinner above.

ii) Spinning C in the spinner above.