SECTION A [30 MARKS]

ANSWER **ALL** QUESTIONS

Question 1 **[30]**

Direction: For each question, there are FOUR responses: A, B, C, and D. Choose the corresponding letter of your response and CIRCLE it neatly. NO score will be awarded, if you circle more than one letter.

i. What fraction is represented by the figure given below?

A $\frac{5}{4}$

B $\frac{5}{6}$

C $\frac{11}{12}$

D $\frac{11}{4}$

ii. The area of the two different rectangles is 12 cm^2 and 18 cm^2. What could be the common side length of the two rectangles?

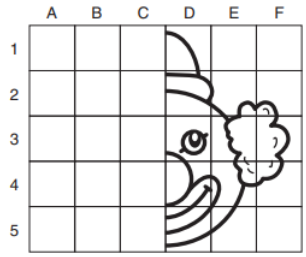
A 2 cm and 3 cm

B 3 cm and 4 cm

C 4 cm and 6 cm

D 6 cm and 9 cm

iii. The given figure is incomplete. In which square should you draw the eye so that the picture is symmetrical?



A D 3

B C 3

C B 3

D A 3

iv. How many dots will be there in figure 5?

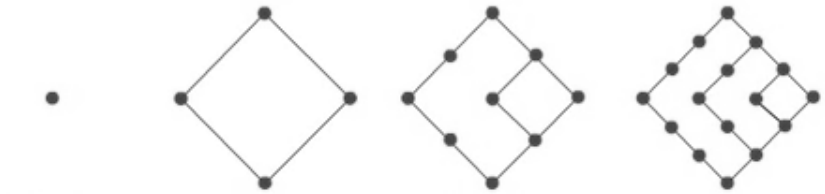


Figure 1 Figure 2 Figure 3 Figure 4

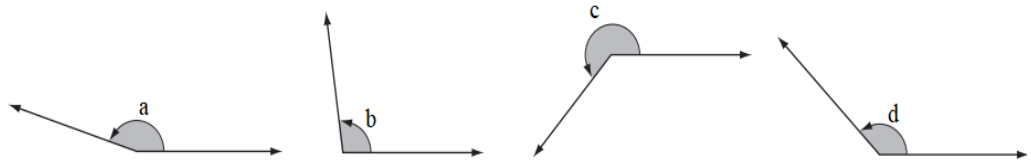
A 25 dots

B 30 dots

C 36 dots

D 49 dots

v. Which of the following angles are arranged in ascending order?



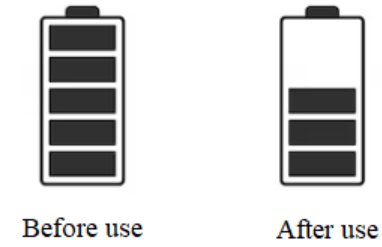
A angle a; angle b; angle c; angle d

B angle b; angle d; angle c; angle a

C angle d; angle c; angle b; angle a

D angle b; angle d; angle a; angle c

vi. Study the figure carefully and answer the question that follows.



What percent of the battery is used?

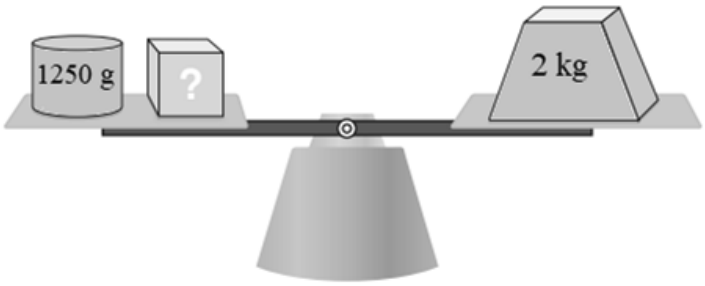
A 60%

B 40%

C 10%

D 2%

vii. The figure given is a scale that is balanced.



What is the mass of the cube?

A 18,750 g

B 3,250 g

C 1,250 g

D 750 g

viii. A shopkeeper charges Nu 5 for 4 chocolates. How much do you need to pay for 20 such chocolates?

A Nu 16

B Nu 20

C Nu 25

D Nu 30

ix. Geeta tries to draw a triangle using the following dimensions.

I. 3 cm; 4 cm; 5 cm

II. 2 cm; 4 cm; 6 cm

III. 4 cm; 6 cm; 8 cm

Which sets of the dimension can form a triangle?

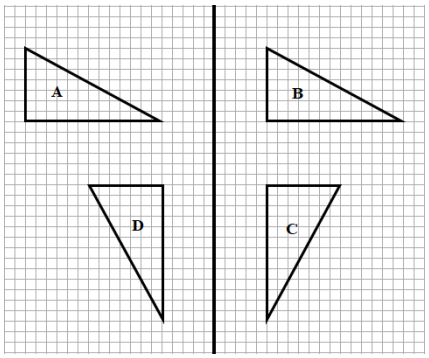
A I and II

B I and III

C II and III

D I, II, and III

x. Which transformations are used to move **Shape A** to **Shape B, Shape B** to **Shape C** and **Shape C** to **Shape D**?



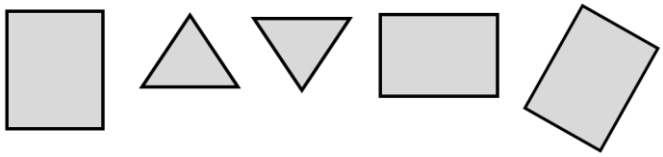
A translate, rotate and reflect

B rotate, reflect and translate

C translate, reflect and rotate

D reflect, rotate and reflect

xi. The shapes given below are the five faces of a 3-D object.



What is the name of the object?

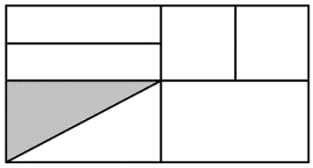
A Rectangular pyramid

B Triangular pyramid

C Rectangular prism

D Triangular prism

xii. What part of a whole is shaded?



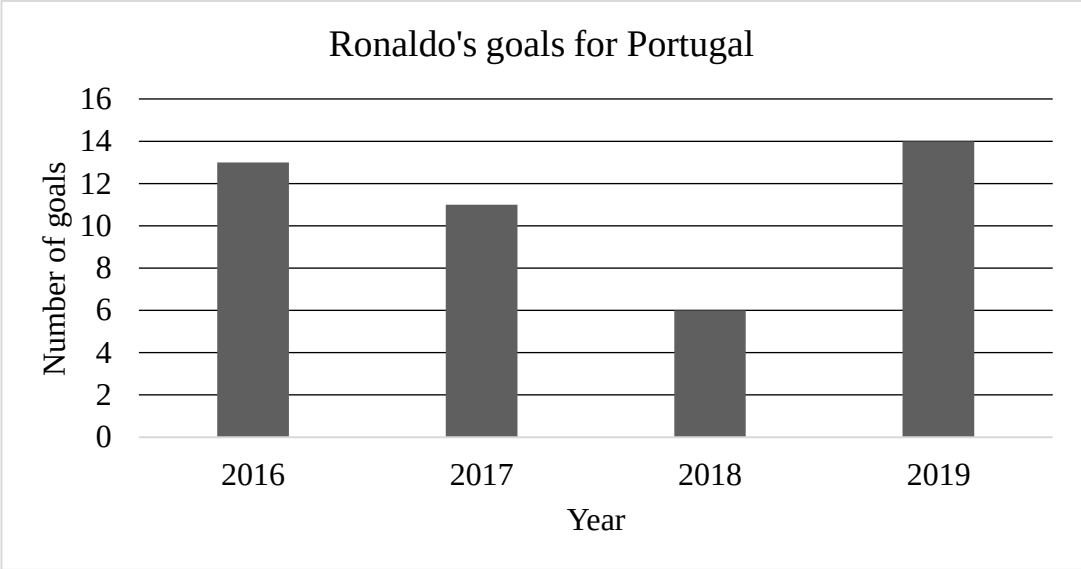
A $\frac{1}{7}$

B $\frac{1}{8}$

C $\frac{6}{7}$

D $\frac{6}{8}$

xiii. Study the graph and answer the question that follows.



What is his mean score?

A 11 goals

B 12 goals

C 14 goals

D 44 goals

xiv. Kelly spent Nu 10 every day. If she still has Nu 20 after 7 days, which of the following equation represent the above situation?

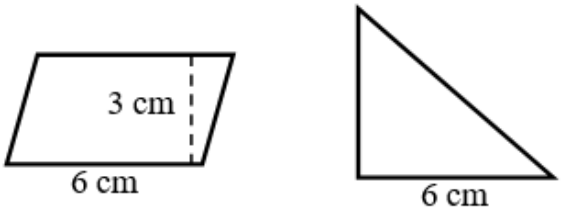
A $10x + 7 = 20$

B $7x + 10 = 20$

C $x - 70 = 20$

D $70 - x = 20$

xv. The shapes given below cover equal areas.



What is the height of the triangle?

A 3 cm

B 6 cm

C 9 cm

D 18 cm

SECTION B [30 MARKS]

ATTEMPT **ALL SIX** QUESTIONS

Question 2

a) Bhutan exported commodities to Bangladesh worth Nu 4.65 billion in April 2023.

i. Write the figures in ngultrum in standard form. **[2]**

ii. What is the place value of 3 in 1,250,300,000? **[1]**

b) Which animal is the fastest in the table given below? How do you know? **[2]**

Wild animal	**Average speed**
Reindeer	40 km/30 min
Tiger	65 km/h
Kangaroo	210 km/3 h
Ostrich	180 km/ 2 h

Question 3

a) The following set of data represents the shoe sizes sold by a shopkeeper.

Shoe Sizes
6, 10, 7, 6, 9, 8, 6, 5, 5, 6, 7, 10, 6, 8, 6, 8, 5, 6

i. If you were the shopkeeper, which shoe size will you bring the maximum for sale? Why? **[2]**

ii. What type of graph would you use to represent the data given in question 3 (a)? **[1]**

b) In the year 2019, a farmer in Phobjikha produced 5 tonnes of potatoes and sold at the rate of Nu 24 per kg. How much did the farmer earn? **[2]**

Question 4

a) Design a house and calculate the total area. **[3]**

b) Two students volunteered to clean the classroom. Student A cleaned $\frac{1}{3}$ and Student B cleaned $\frac{2}{5}$ of the floor. What part of the floor is left uncleaned? **[2]**

Question 5

a) Yugyel says, if we rotate any 2-D shape $\frac{3}{4}$ turn ccw or $\frac{1}{4}$ turn cw it will form the same image. Do you agree? Justify. **[2]**

b) A private firm bought 5 chairs at the cost of Nu 1349.99 for each.

i. Estimate the total cost to the nearest whole number. **[1]**

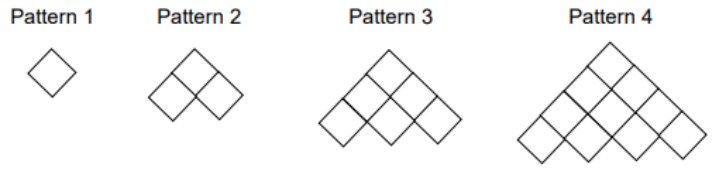
ii. Find the total cost. **[2]**

Question 6

a)

i. What is the sum of the interior angles for any given triangle? **[1]**

ii. A group of students used toothpicks to create the following pattern. **[2]**



How many squares will be there in pattern 6?

b) Tashi solved the equation as shown below. **[2]**

$2x+3=7$

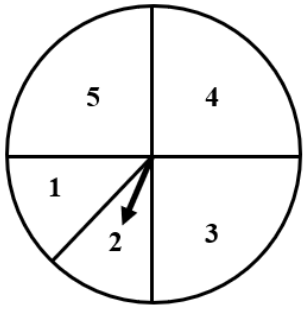
$2x=10$

$x=5$

Do you think Tashi solved the equation correctly? Justify.

Question 7

a) For the spinner given, what is the probability of spinning 2? **[2]**



b) Write at least three differences between line of symmetry and plane of symmetry. **[3]**

Line of symmetry	***Plane of symmetry***

Formulas

1) Perimeter of a rectangle = 2(l + w) or l + w + l + w
2) Perimeter of a square = 4 × s or s + s + s + s
3) Area of a rectangle = l × w
4) Area of a square = s × s
5) Area of a parallelogram = b × h ÷ 2
6) Area of a triangle = (b × h) ÷ 2 or $\frac{b \times h}{2}$
7) Base of a triangle = $\frac{2 \times A}{h}$
8) Height of a triangle = $\frac{2 \times A}{b}$
9) Volume of a rectangular prism = l × w × h
10) Volume of a cube = s × s × s
11) Thoeritical probability = $\frac{Number\ of\ favourable\ outcomes}{Number\ of\ possible\ outcomes}$
12) Relationship between volume and capacity: 1 cm^3 = 1 mL = 1 g
13) 1 tonne = 1000 kg
14) 1 kg = 1000 g

ROUGH WORK

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