COMPETENCY BASED ASSESSMENT TEST

SUBJECT: MATHEMATICS **TOTAL MARKS: 100**

CLASS: VI **TIME: 2 HOURS 15 MINS**

Name: _____ **Roll No:** _____

School: _____ **Section:** _____

Dzongkhag: _____

Points to Remember

1. *First write your **name, roll number, name of your school, section, Dzongkhag** in the space given above.*
2. *You must answer and write down **all answers** to each **question in the given space** of the **booklet** (**No separate answer sheet will be provided**).*
3. *Read the **questions** carefully.*
4. ***15 minutes** time is allocated for reading the questions.*
5. *In this **question paper**, you will find 15 multiple choice questions in **Section A** and 14 questions in **Section B** (numbered from 2 to 15). You must attempt **all** the questions.*
6. *You have **two hours** to finish the test. Make good use of the given time.*
7. *The mark for each question is given in the brackets.*
8. *Do **not talk** with your friends during the test.*

For teacher's use only

Question 1	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv	xv	Total	Signature
Options																30	
Marks Scored																	

Question	2	3a	3b	4	5a	5b	6a	6b	7a	7b	8a	8b	9	Total	Signature
Marks	5	3	2	5	2	3	3	2	3	2	2	3	5	40	
Marks Scored															

Question	10a	10b	11a	11b	12a	12b	13a	13b	14a	14b	15a	15b	Total	Signature
Marks	2	3	3	2	2	3	2	3	2	3	2	3	30	
Marks Scored														

SECTION A

Answer ALL Questions

Direction: *Each question in this session is followed by* ***FOUR*** *possible choices of answers. Choose the most correct answer and write it down in the* ***question booklet*** *itself. Each question carries 2 marks.*

Question 1 **[15 X 2 = 30 Marks]**

i. Which one of the following is the property of rotation?

A Its ½ turn creates an angle of 270°.

B It takes place around the turn centre.

C It takes place in clockwise direction only.

D Original shape is not congruent to its image.

Answer ……..

ii. The place value of 6 in 0.1267 is

A thousands.

B tenths.

C thousandths.

D ten thousandths.

Answer……..

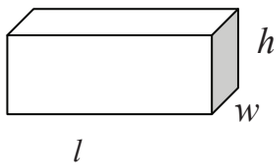
iii. What is the volume of the rectangular prism whose dimensions are as shown below?

A $l \times w$

B $2(l + w)$

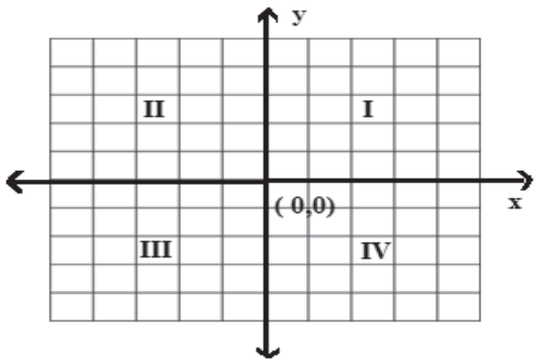
C $l + w + h$

D $l \times w \times h$



Answer.....

iv. The coordinates (**x, y**) in quadrant **II** can be described as



A (+ x, + y).

B (-x, -y).

C (+ x, -y).

D (-x, +y).

Answer……

v. The shaded portion given below can be written as

A $\frac{19}{5}$.

B $\frac{19}{20}$.

C $\frac{4}{5}$.

D $\frac{5}{19}$.

Answer……..

vi. If Karma walks 6 km in 1 hour, how many kilometers can he cover in 9 hours?

A 48 km

B 54 km

C 56 km

D 60 km

Answer……..

vii. The spinner is used in a board game.

Mani spins the arrow.
On which number is the arrow **most likely** to stop?

A 1

B 2

C 3

D 4

Answer…….

viii. Which of the following given set of numbers are prime?

A 1, 2, 3, 4, 5

B 2, 3, 4, 5, 6

C 2, 3, 5, 7, 11

D 3, 5, 9, 11, 15

Answer……

ix. The expanded form of 2,015,800,065 is

A two billions, one hundred fifteen millions, eight thousands, sixty five.

B two billions, fifteen millions, eight hundred thousands, sixty five.

C two billions, five millions, eight hundred thousands, sixty five.

D two billions, fifteen millions, eighty thousands, sixty five.

Answer…….

x. There are **four** baskets which contain apples. Select the basket that has the **maximum** number of apples.

basket 1	basket 2	basket 3	basket 4
$\frac{2}{3}$ *full*	$\frac{3}{6}$ *full*	$\frac{7}{12}$ *full*	$\frac{3}{4}$ *full*

A basket 1

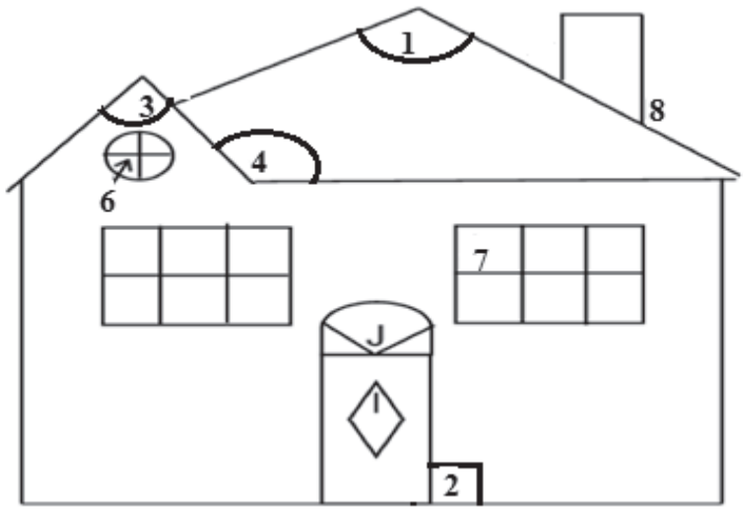
B basket 2

C basket 3

D basket 4

Answer……

xi. The angles marked **1, 2** and **3** in the diagram given measures



	Angle 1	Angle 2	Angle 3
A	120°	95°	75°
B	130°	90°	97°
C	125°	90°	80°
D	130°	90°	105°

Answer…….

xii. Dema weighs 7.6 kg. Her older sister Pelmo is 3 times as heavy as Dema. How much does Pelmo weigh?

A 25.8 kg

B 24.8 kg

C 22.8 kg

D 21.8 kg

Answer…….

xiii. A bus travels from Thimphu to Phuntsholing. Its starting time and arrival time are given below. How much time will the bus take to reach Phuntsholing?

Starting time

Arrival time

A 5 hours, 55 minutes

B 6 hours, 55 minutes

C 7 hours, 55 minutes

D 8 hours, 55 minutes

Answer…….

xiv. The table below shows the number of Class VI students who passed out from four different dzongkhags.

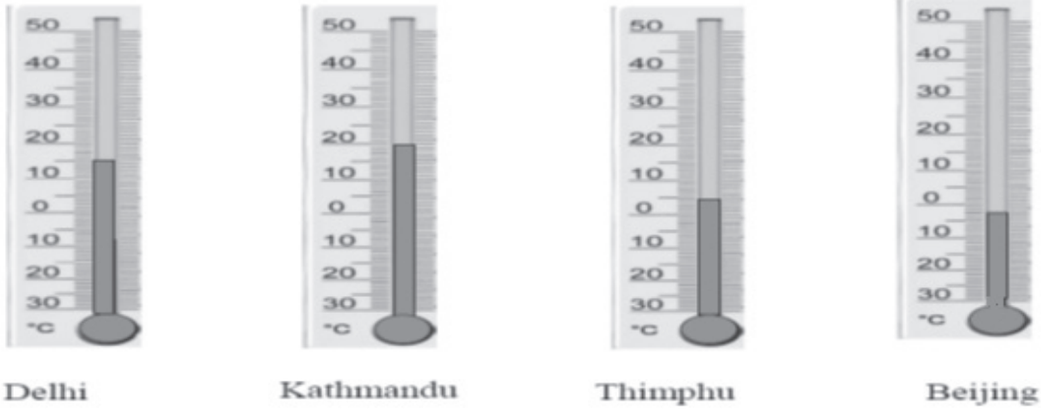
Dzongkhag	Number of students passed
Zhemgang	$\frac{200}{500}$
Sarpang	$\frac{150}{300}$
Trashigang	$\frac{120}{400}$
Paro	$\frac{160}{200}$

Which dzongkhag has the highest pass percent?

A Paro
B Sarpang
C Zhemgang
D Trashigang

Answer……

xv. The thermometer below shows the average temperature of four capital cities in winter. Arrange these cities from **hottest** to **coldest**.



A	Thimphu	Kathmandu	Beijing	Delhi
B	Delhi	Thimphu	Beijing	Kathmandu
C	Kathmandu	Delhi	Thimphu	Beijing
D	Beijing	Thimphu	Delhi	Kathmandu

Answer……

SECTION B

*(Answer all questions in this section and write it down in the **question booklet** itself)*

Question 2 **[5]**

Match each item in **column A** against its correct item in **column B.** Rewrite the correct matching pairs in **Column C.**

Column A	Column B	Column C
i. Area of a triangle with base = 7 cm, height = 5cm	a) $30cm^3$	i. ……
ii. Volume of $5cm^3$ is equal to capacity of	b) Capacity	ii. ..…...
iii. Area of a parallelogram with base = 6cm, height = 50 mm	c) 5ml	iii. ..….
iv. The amount 3 – D shape can contain	d) Volume	iv. …….
v. Volume of a prism (l = 5cm, w = 3cm, h = 2cm)	e) $17.5cm^2$	v. ..…...
	f) $30cm^2$	
	g) $10cm^3$	

Question 3 **[5]**

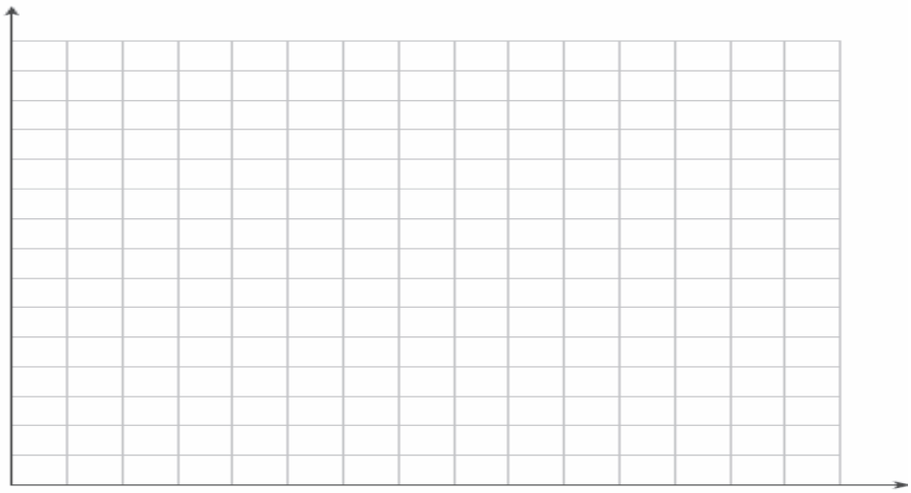
a. A shopkeeper gave you $\frac{5}{9}$ of a bunch of bananas. You already had $\frac{2}{9}$ of a bunch in your bag. Do you now have a whole bunch in your bag? How do you know? Show your work. **[3]**

b. The number of girls and boys coming from different parts of a city for a summer cricket coaching camp is as shown in the table. **[2]**

Cities	A	B	C	D
Girls	20	20	30	15
Boys	30	40	25	50

i. How many participants attended the coaching? **[1/2]**

ii. Represent the above data using a double bar graph on a grid below. **[1 ½]**



Question 4 **[5]**

Fill in the blanks with the most appropriate answers.

a. Zangmo and Sandeep solved the same expression of $3 \times 5.2 + 20.5 \div 0.5$ but got different answer. This problem could be avoided by using rules called…….

b. ☐ ÷ ☐ is about $30 \div 6$.

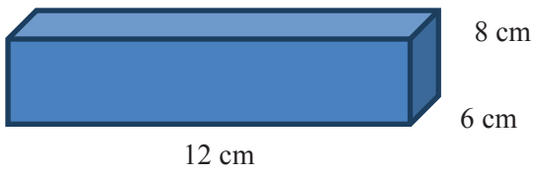
c. The digit 3 in the product of 2.314×100 will be in…… place.

d. The quotient of $200 \div 0.01$ is ……..

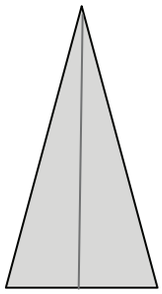
e. The place value of 2 tenths x 3 hundredths is……

Question 5 **[5]**

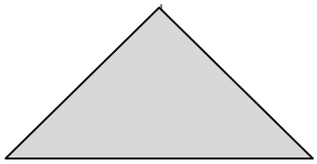
a. Tenzin has a rectangular block of wood measuring 12-by-6-by- 8 as shown below. He cuts it into congruent cubes with no wood left over. What are the possible edge lengths of each cube? **[2]**



b. Maya wants to make two roofs with same area as shown below. One is tall and narrow and other is short and wide. Why is that possible? Explain using example. **[3]**



Roof M



Roof N

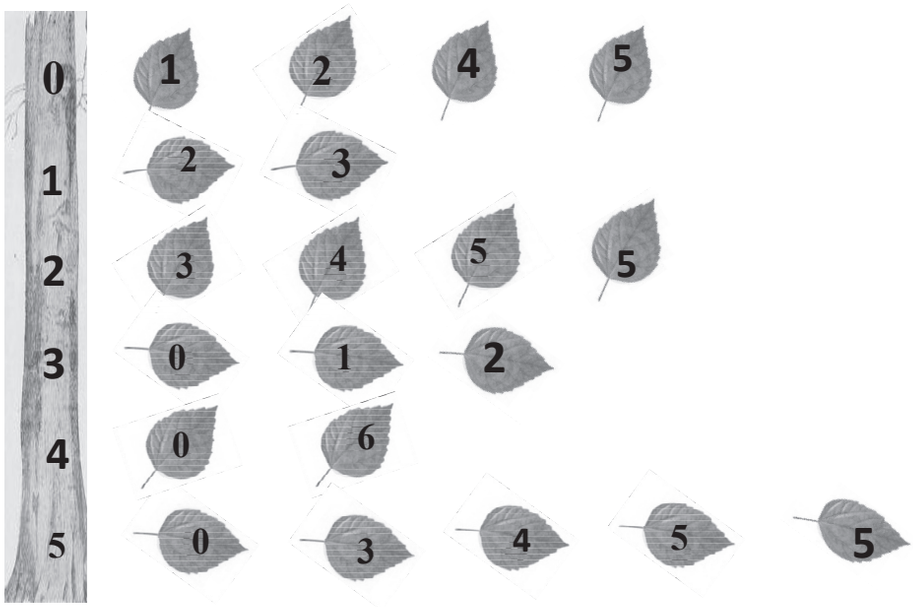
Question 6 **[5]**

a. When 2,000 kg of paper is recycled, 10 trees are saved. How many trees are saved if 5,000 kg of paper is recycled? **[3]**

b. Write **ONE** similarity and **ONE** difference between 4.05 and 0.45. **[2]**

Question 7 **[5]**

a. The stem and leaf plot given below shows ages of 20 people. Calculate **mean, median** and **mode**. **[3]**



b. Arrange the following values from **lightest** to **heaviest**. **[2]**

2.03t	2033kg	0.23t	23kg	2.33t	23,000,000g

Question 8 **[5]**

a. Yangzom was at a party and saw a pizza divided into eight equal slices. By the time she was at the food table, only seven slices of pizza were there. If she ate 3 of those slices, then what part of the pizza was left for other guests to eat? Find out who got more pizza? **[2]**

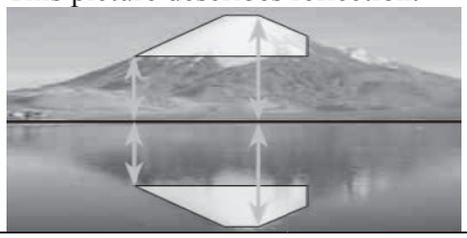
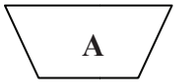
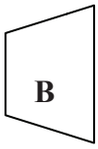
Pizza

b. Think of a situation in day to day life and write down an event for each probability below. **[3]**

Probability	**Describe an Event**
50%	?.....
$\frac{4}{6}$	?.....…
0.6	?.....

Question 9 **[5]**

Write **TRUE** and **FALSE** against each statement in the given table.

Sl.No	Statement	
i.	The order of turn symmetry for a regular polygon depends upon the number of its equal sides.	
ii.	A ½ turn rotation results the same image as a horizontal reflection followed by a vertical reflection.	
iii.	This picture describes reflection. 	
iv.	From the two shapes below, shape 2 can be tessellated.  Shape **1**  Shape **2**	
v.	Translation can lead shape A to shape B.  **A**  **B**	

Question 10 **[5]**

a. Which number is greater, 31,242,899 or 31,342,899? Show how you compared the number? **[2]**

b. Write **two** integers that are less than -5 but greater than -8. Show it on a **number line.** **[3]**

Question 11 **[5]**

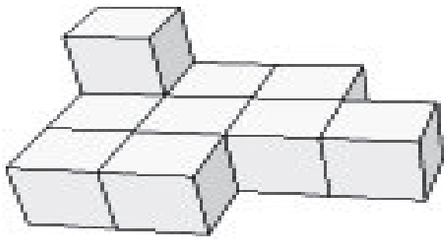
a. Chocolates for sale. Which is the best price for the buyer? Why do you think so? **[3]**

3 chocolate bars for Nu 144

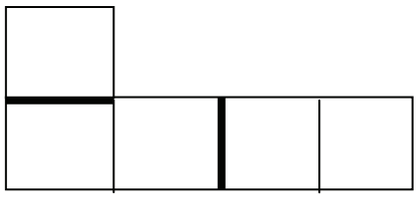
OR

5 chocolate bars for Nu 200

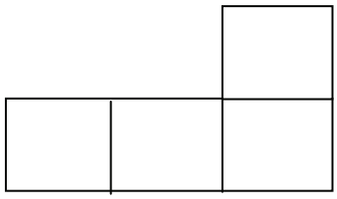
b. Dorji made a set of orthographic drawings of the cube structure shown below. Do you think his drawings are correct? If not, how would you help him to improve the drawings? **[2]**



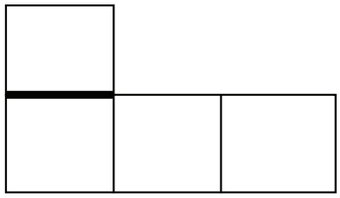
Front of cube structure



Front view



Right view

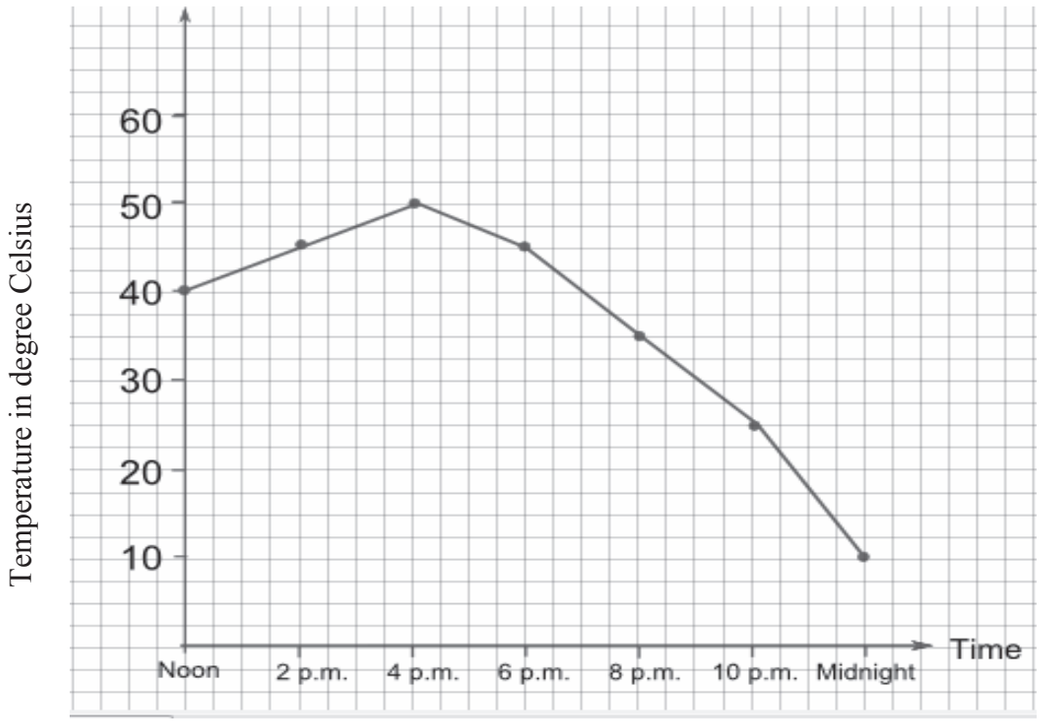


Left View

Question 12 **[5]**

Direction: Study the line graph given below very carefully and answer the questions**.**

a. Hari recorded the temperature in the room every after two hours over a period from noon to midnight. The results are shown in the line graph below. **[2]**



i. What was the difference between the highest and the lowest temperatures that he recorded? **[1]**

ii. What can you conclude about the temperature in the room? **[1]**

b. Karma solved 60% of 400 as shown below:

60: 100 =240: 400
She got 240 as her answer.

Maya solved 60% of 400 as shown below:

$\frac{60}{400} X\ 100$

She got 15 as her answer.

i. Who do you think has solved the calculation correctly? How do you know? **[1]**

ii. Solve the same problem using different method. **[2]**

Question 13 **[5]**

a. Kezang is in Class VI. She lives with her parents and her younger brother. Is the **median** age in her family **greater** or **lesser** than Kezang's age? Explain your thinking. **[2]**

Kezang

b. Menda found out the difference between **two** fractions as $\frac{5}{8}$. She claims the **two** fractions as $\frac{3}{4}$ and $\frac{1}{8}$. Do you agree with her? Show your work using fraction strip. **[3]**

Question 14 **[5]**

a. Sonam calculated 4.5 ÷ 0.5 + (2.9-1.9) as below:

4.5 ÷ 0.5 + (2.9-1.9)
4.5 ÷ 0.5+1
4.5 ÷ 1.5
= 3

Do you agree with Sonam's procedure? If not, show your work. **[2]**

b. Create any **two** shapes with at least **two** planes of symmetry that you come across in your day to day life. **[3]**

Question 15 **[5]**

a. Tshering and Peldon collected data on favourite sports of 35 students in their class. They collected the sample in different ways. Tshering asked 15 girls from roll number 1 to 15. Peldon asked about 75% of the students by picking up their roll numbers randomly.

Whose method of sampling is the best, Tshering or Peldon? Justify your answer with **TWO** points. **[2]**

b. Create a word problem which can be solved by using addition and multiplication of decimal and whole numbers. Solve your own problem. **[3]**

*******ROUGH WORK*******