



STUDENT NAME : \_\_\_\_\_  
SCHOOL NAME : \_\_\_\_\_  
DZONGKHAG : \_\_\_\_\_

ROLL NO : \_\_\_\_\_  
SECTION : \_\_\_\_\_  
GENDER : \_\_\_\_\_

## MATHEMATICS

Reading Time: 15 Minutes

Writing Time: 1 ½ Hours

Full Marks: 60

Year: 2021

For teacher's use only

MCQ	i	ii	iii	iv	v	vi	vii	viii	ix	x	xi	xii	xiii	xiv	xv	Total	Signature
Option																30	
Mark Scored																	

Question	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	Total	Signature
Mark	3	2	3	2	3	2	2	3	2	3	3	2	30	
Mark Scored														
Final Score														

**IMPORTANT: Turn over to read instructions**

## READ THE FOLLOWING INSTRUCTIONS CAREFULLY

1. First write your **name, roll number, section, name of your school, gender and Dzongkhag/Thromde** in the space given on first page.
2. There are two sections in this question. Section **A** (30 marks) and **B** (30 marks).
3. Read the **questions** carefully and answer **all** questions.
4. **Do not** write in the first 15 minutes. This time is to be spent in **reading the** questions.
5. Write your answers to each question in the **given space**. The mark for each question is given in the **brackets**.
6. You have **one and half hour** to finish the test. Make good use of the given time.
7. Use of Calculator and Mobile is not allowed.
8. All the rough work should be carried out in the page given at the end of this booklet.

(First **FIFTEEN** minutes could be used by the teachers on duty to explain the instructions)

**SECTION A (30 MARKS )**  
**ANSWER ALL QUESTIONS**

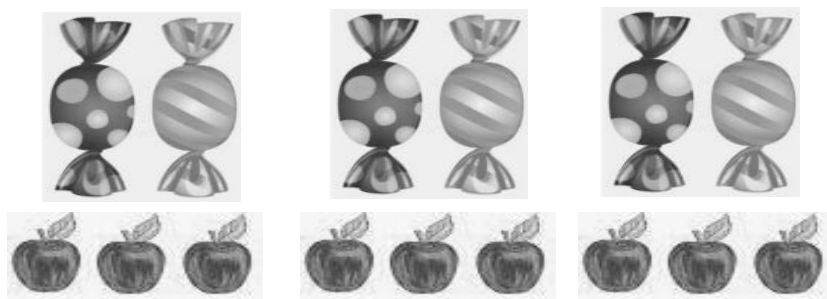
**Question 1**

**[30]**

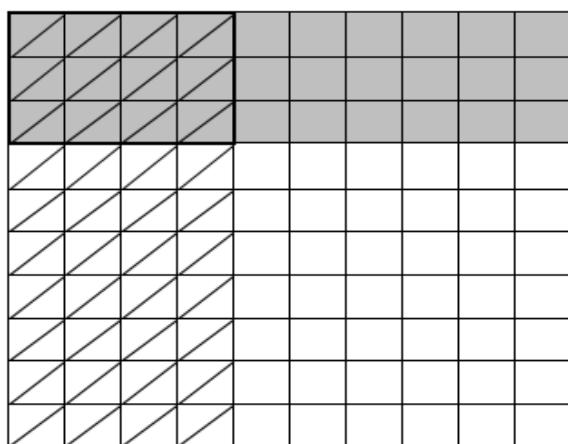
**Direction:** For each question, there are **FOUR** responses: **A, B, C and D**. Choose the corresponding alphabet of your response and **CIRCLE** it neatly. **NO** score will be awarded if you circle more than one.

- i. Deki and Dhendup made a garden with an area of  $12\text{cm}^2$  and  $24\text{cm}^2$  each. What could be the possible common side lengths of their garden?
- A 2cm and 4cm
  - B 2cm and 8cm
  - C 3cm and 8cm
  - D 2cm and 10cm
- ii. Sangay's yearly income is Nu 151,800. Which of the following expanded form represents his yearly income?
- A 15 thousands + 8 hundreds
  - B 5 ten thousands + 8 hundreds
  - C 1 ten thousands + 5 thousands + 8 hundreds
  - D 1 hundred thousand + 5 ten thousands + 1 thousands + 8 hundreds
- iii. What kind of fraction is  $\frac{22}{8}$  ?
- A mixed fraction
  - B proper fraction
  - C improper fraction
  - D equivalent fraction

- iv. In the diagram given below, which of the following ratio shows the ratio of candy to apple?



- A 2 : 3  
 B 3 : 2  
 C 6 : 3  
 D 3 : 6
- v. A teacher asked Tenzin to shade 10 by 10 grid to represent a decimal multiplication. His shaded grid is shown below.



Which decimal multiplication is represented by his grid?

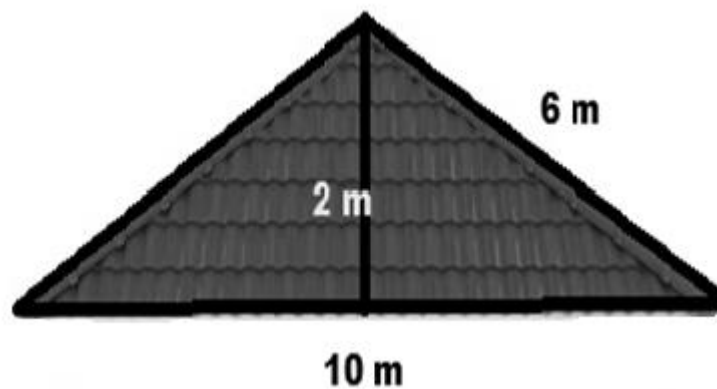
- A 3 x 4  
 B 3.0 x 4.0  
 C 0.3 x 0.4  
 D 0.03 x 0.04

- vi. Bumthang Dzongkhag conducted a marathon and recorded the speed of four runners as shown in the table below.

Name	Speed
Dawa	21km per 3 hours
Tenzin	30 km per 5 hours
Norbu	18 km per 2 hours
Kencho	35 km per 5 hours

Who was the fastest runner according to above the record?

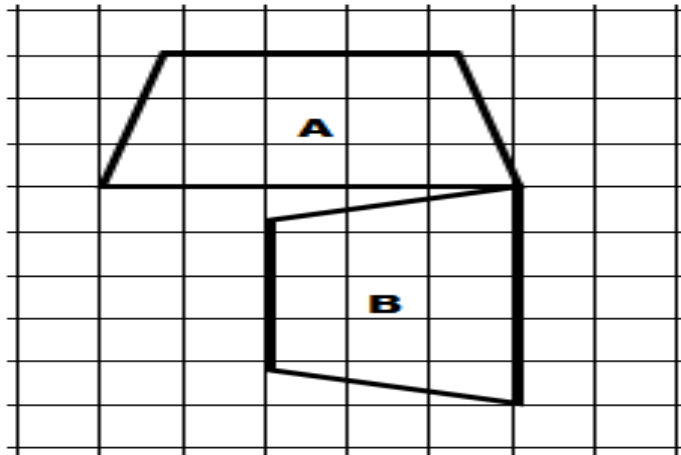
- A Dawa  
B Tenzin  
C Norbu  
D Kencho
- vii. Maya wants to find the area of the roof of her house. The measurement of the roof is as given below.



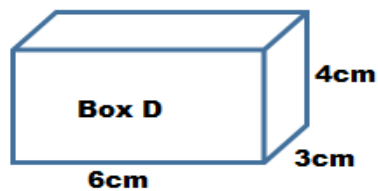
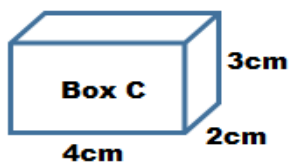
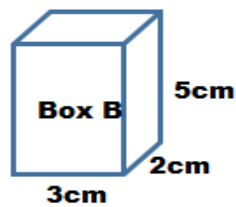
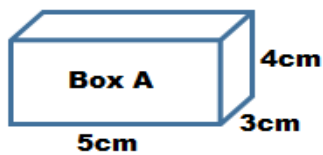
What is the area of the roof?

- A  $24 \text{ m}^2$   
B  $18 \text{ m}^2$   
C  $10 \text{ m}^2$   
D  $20 \text{ m}^2$

- viii. Dorji moved shape A to B as shown below. Which of the following transformation did he use?

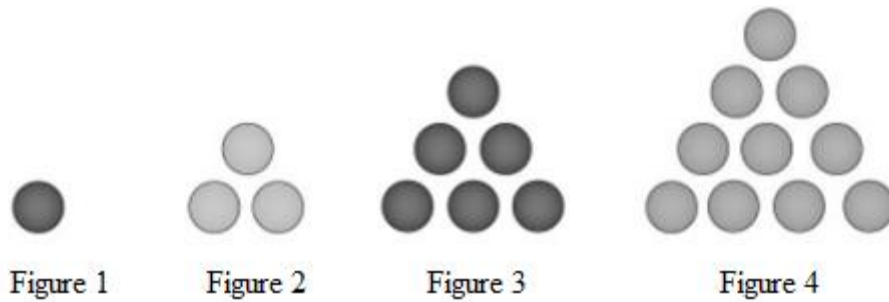


- A    slide  
B    rotation  
C    reflection  
D    translation
- ix. Tashi was asked to construct a rectangular box that would hold 60 ml of water. Which of the following dimensions should he use to make the box?



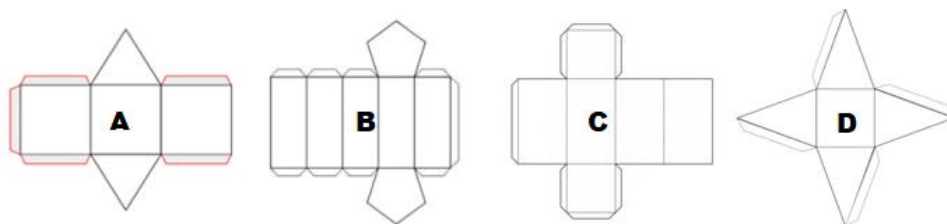
- A    Box A  
B    Box B  
C    Box C  
D    Box D

- x. Study the figure given below and answer the question that follows.



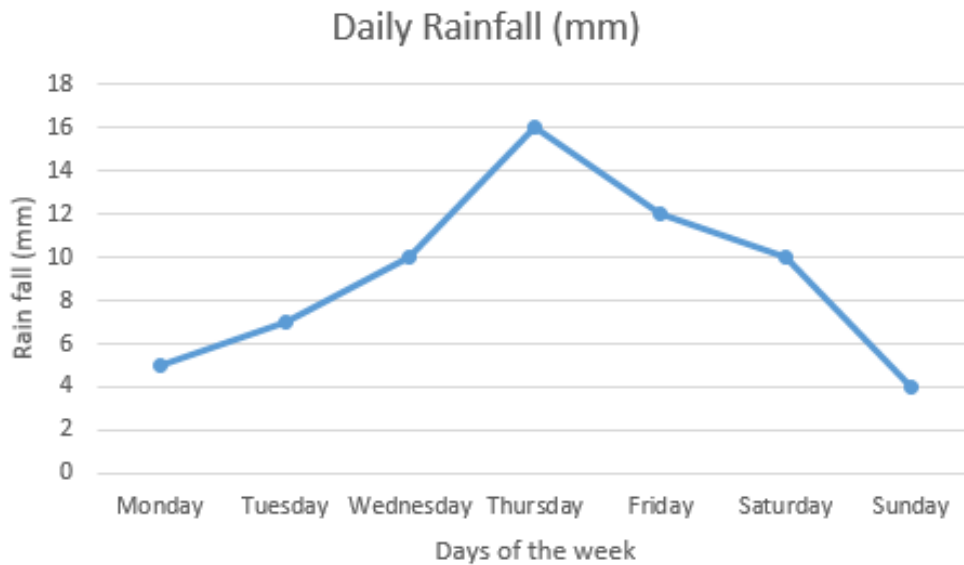
What will be the number of dots in figure 7?

- A    26  
B    27  
C    28  
D    29
- xi. Dema has a 840 cm rope. How many millimeter of rope does she have?  
A    8.4 mm  
B    8400 mm  
C    84000 mm  
D    480000 mm
- xii. In a class, a teacher gave the following nets to four groups of students and asked them to make a 3-D shape. Which of the following net will give a triangular prism?



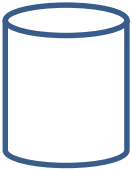

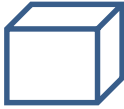
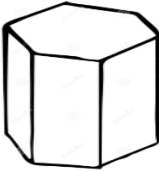
- A    Net A  
B    Net B  
C    Net C  
D    Net D

- xiii. The graph below shows the amount of rainfall recorded in millimeter in a week in Samtse Dzongkhag.



What is the average rainfall in a week in Samtse?

- A 8 mm
  - B 9 mm
  - C 12 mm
  - D 16 mm
- xiv. Which shapes below has only **three** planes of symmetry?

			
A	B	C	D



- xv. A teacher prepared number cards using the following numbers given below. Students were asked to shuffle the cards and keep it on the table faced down. Then they were asked to pick one card.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50

What is the theoretical probability of picking a **prime number** less than 31 from the bag?

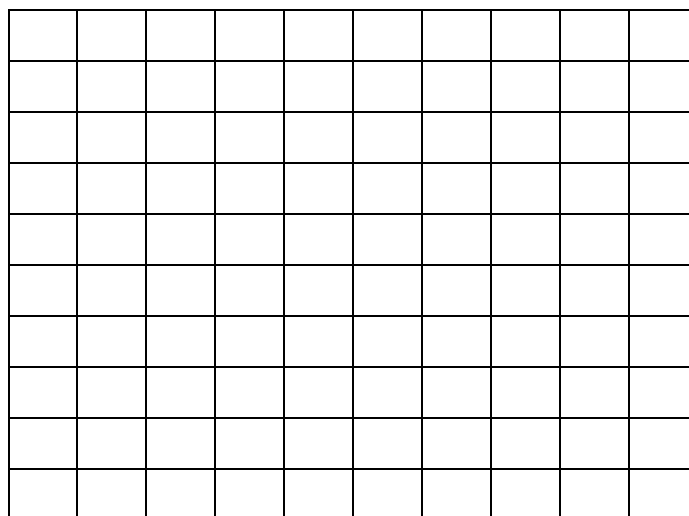
- A  $\frac{9}{50}$   
B  $\frac{10}{50}$   
C  $\frac{11}{50}$   
D  $\frac{12}{50}$

**SECTION B (30 MARKS)**  
**ANSWER ALL QUESTIONS**

**Question 2**

- a. Write a number to match each description given below. [3]
- i. 8 in the ten thousandths place, 2 in the tens place and 4 in the hundreds place.
- ii. The surface area of the earth is approximately 510,000,000 square km.  
Rename the number in two different ways.

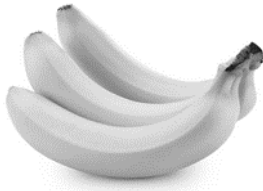

- b. Bhutan has about 60% of land cover under forest. Represent this information on the grid given below. [2]



### Question 3

- a. Melam and Gyeltshen bought a cake each. Both Melam and Gyeltshen shared some parts of their cake with Dechen. Altogether Dechen got  $\frac{3}{4}$  part of the cake. [3]
- i. What could be the possible parts of cake that Melam and Gyeltshen gave to Dechen?
- ii. Draw a picture to show the above addition.

- b. Kelden wants to buy bananas. He goes to two different shops and found the rates as shown in the table given. [2]

Shop A	Shop B
	
3 bananas for Nu 15	4 bananas for Nu 16

- i. Which shop sells bananas at a lower rate?
- ii. What will be the cost of 8 bananas if you buy from shop B?

#### Question 4

- a. Create any linear equation and solve it. [3]

- b. In a box there are 4 jars as shown below. Each jar contains 4 chocolates. How many chocolates are there altogether?

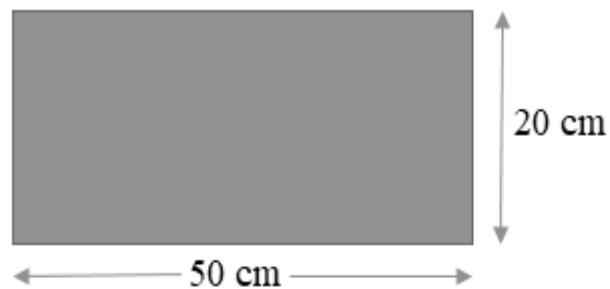
[2]



### Question 5

- a. Calculate the area of the rectangular floor given below.

[2]



- b. A company made a rectangular juice box as shown below.

[3]



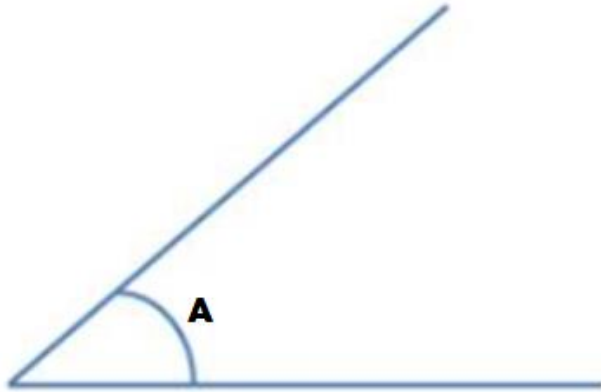
How many millimeters of mango juice can the box hold?

### Question 6

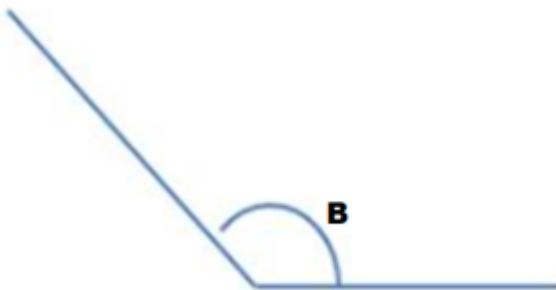
a. Measure the angle given below using a protector

[2]

i.

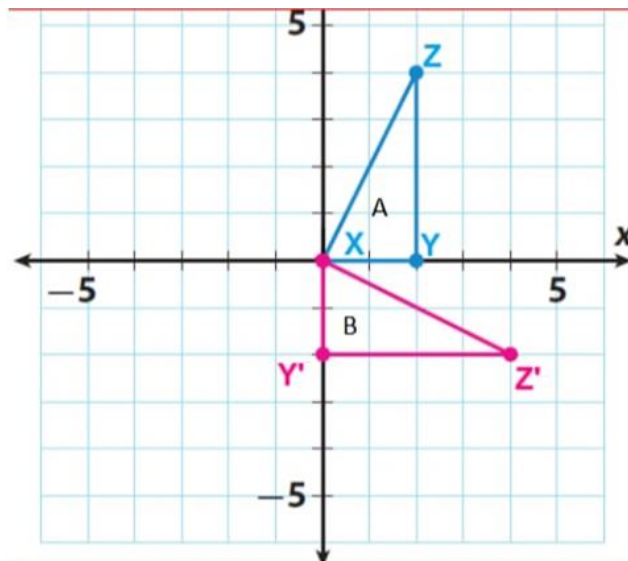


ii.



- b. Translating rotated shape **A** to shape **B** as shown below.

[3]

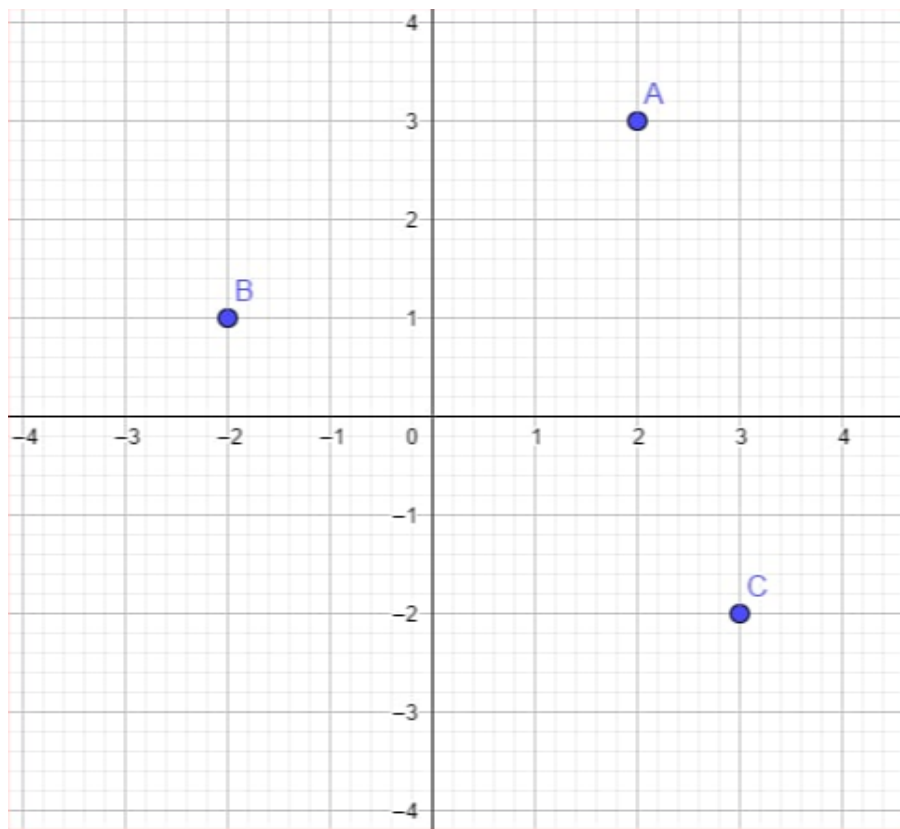


- Identify the turn center.
- Describe **two** ways that shape A can be rotated to shape B.

### Question 7

- a. Write the ordered pairs for the points **A**, **B** and **C** given on the graph.

[3]



- b. Create an event that has the theoretical probability of  $\frac{1}{6}$ .

[2]



## **ROUGH WORK**

