

Mathematics

Writing Time : 2

Total Marks : 100

READ THE FOLLOWING DIRECTIONS CAREFULLY:

1. Do **not** write in the first **fifteen minutes**. This time is to be spent on 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 allotted for reading as well as for teachers on duty to explain the instructions)

SECTION A
15 Questions [30 Marks]
Answer all Questions.

Directions: Each Question in the section is followed by three possible choices of answers. Choose the correct answer and write it in the answer sheet provided by the school.

Question 1

1. Which mixed number below represents the fraction $\frac{19}{4}$?

A $4\frac{4}{5}$

B $4\frac{3}{4}$

C $4\frac{1}{4}$

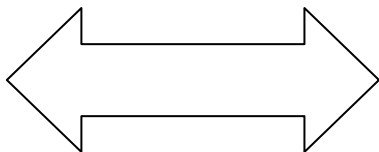
2. The sum of $\frac{3}{8} + \frac{4}{8}$ is

A $\frac{6}{8}$

B $\frac{5}{8}$

C $\frac{7}{8}$

3. The order of turn symmetry of the given shape is



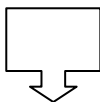
A 2

B 1

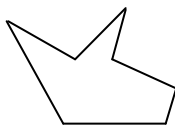
C 3

4. Which one of the following shapes can tessellate?

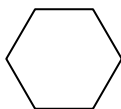
A



B



C



5. The rule for dividing a whole number by 0.01 is to divide

A 0.01, multiply by 10

B. 0.01, multiply by 100

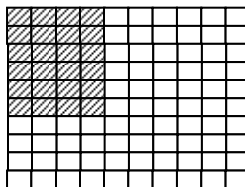
C 0.01, multiply by 1000

6. The multiplication equation of the given shaded grid is

A 0.4×0.6

B 0.5×0.6

C 0.6×0.3



7. A parallelogram has a base of 6 m and an area of 24 m^2 . What is the height?

A 6 m

B 5 m

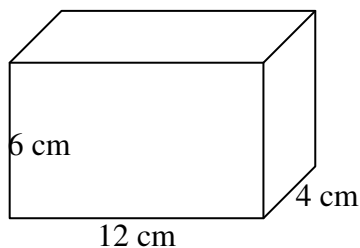
C 4 m

8. The volume of the given shape is

A 828 cm^3

B 288 cm^3

C 208 cm^3

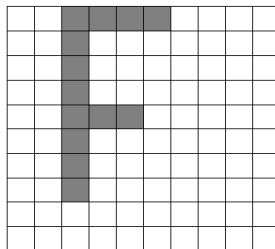


9. In $10:15 = 20:\square$, the missing number in the box is

- A 30
- B 40
- C 25

10. What percent of the grid is shaded?

- A 31%
- B 13%
- C 10%



11. Two hundred thirty million, six hundred thousand can be written as

- A 2,306,000
- B 230,00,600
- C 230,600,000

12. Seven students in Gomdar Lower Secondary School are 0.01 of its population.
The population of Gomdar Lower Secondary School is

- A 80
- B 600
- C 700

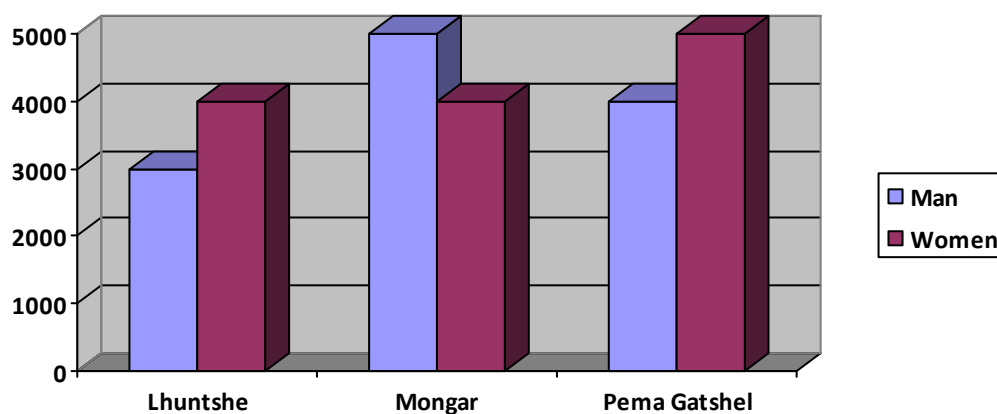
13. The mean of the of 4, 5, 8, 2, 1 is

- A 2
- B 4
- C 3

14. The median of 17, 1, 12 and 6 is

- A 9
- B 8
- C 10

15. The graph below shows the number of men and women in three Dzongkhags.



Find which one of the following is the total number of men in three Dzongkhags.

- A 11,000
- B 12,000
- C 13,000

SECTION B

Answer all the questions in this section. [70 marks]

Question: 2

a) Draw fraction strips to show which fraction is greater or smaller. [2]

i) $\frac{3}{4} \square \frac{1}{2}$ ii) $\frac{3}{7} \square \frac{5}{7}$

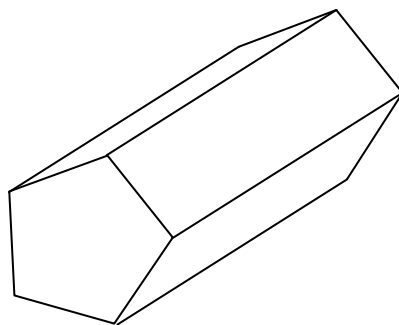
b) Order from the least to the greatest. Use equivalent methods to show your work. [3]

$$\frac{3}{8}, \frac{9}{16}, \frac{7}{20}$$

Question: 3

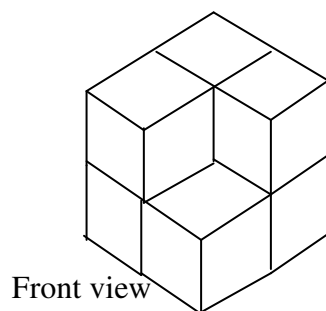
- a) Examine this pentagon-based prism and answer the questions that follow.

[2]



- i) Sketch one plane of symmetry.
ii) Sketch one cross-section.
- b) Draw the front face view, back face view and top face view of this cube structure.

[3]



Question: 4

- a) Use a hundredth grid to model and find the quotient.

[3]

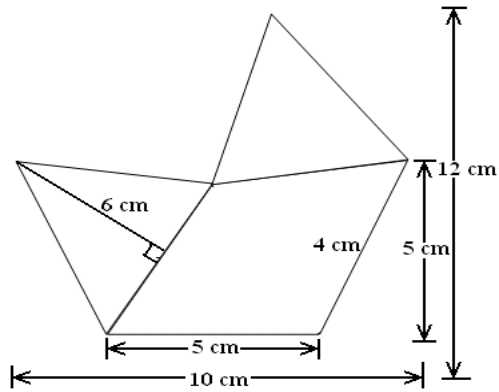
i) $2.7 \div 0.3$ ii) $1.4 \div 0.7$

- b) Multiply 0.3×1.5 in two ways

[2]

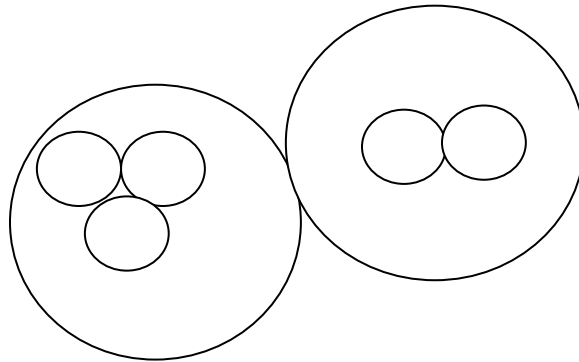
Question: 5

- a) Write in 24 hours time form
- i) 7:45 PM ii) 3:35 AM
- b) Calculate the area of this shape. Show your work. [3]

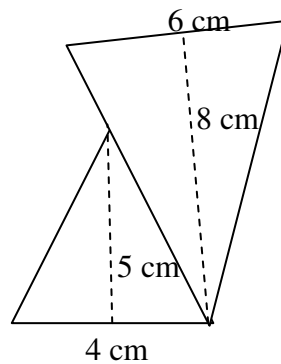


Question: 6

- a. i) What is the ratio of the number of smaller circles to the number of bigger circles in the pictures given below. [1]



- ii) What is the ratio of the area of one smaller triangle to the area of bigger triangle? [2]



- b. A bus from Thimphu to Phuntsholing takes 2 hrs 45 mins. A car travelling between the two same towns takes 1h 30 mins. The distance is 175 km.
- What are the rates of the speed of the bus and the car?
 - Which one is faster?

c. Write each percent as decimal.

[3]

- 20 %
- 50 %
- 15 %

Question: 7

a) Write each in a standard form

[3]

- 5.2 billion
- 4.15 ten million
- 223 ten thousand

b) Draw a number line for the following integers.

[3]

- 7
- 5
- the opposite of -4

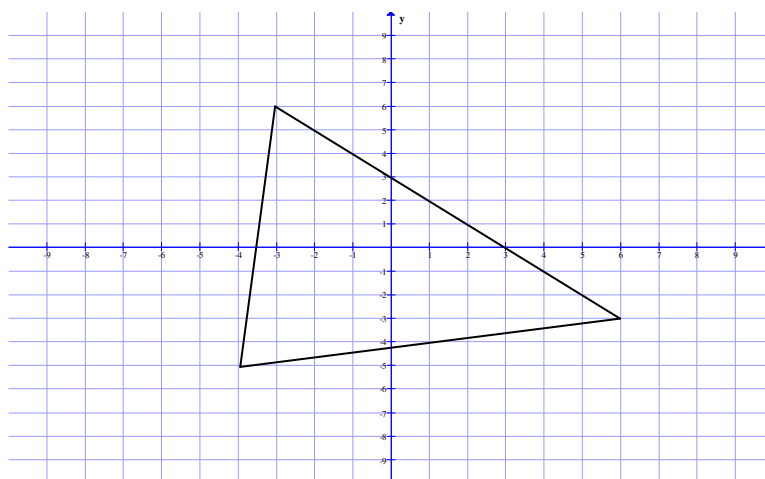
c) Find the common factors of 18 and 36.

[2]

Question: 8

a) Find out the pair of coordinates of the three vertices.

[3]



- b) Sketch a bar graph of the data in each stem and leaf plot given below.
Use the same interval as the stem and leaf plot.

[3]

5	3 4 4 5
6	5
7	5 8 8 9 9
8	8 9 9

Question: 9

- a) Copy the grid in your answer sheet and shade the grid to represent the given fractions.

[3]

- i) $\frac{3}{4}$ ii) $\frac{4}{6}$ iii) $\frac{3}{4} - \frac{4}{6}$

- b) i) Write $\frac{23}{4}$ as a mixed number.

[1]

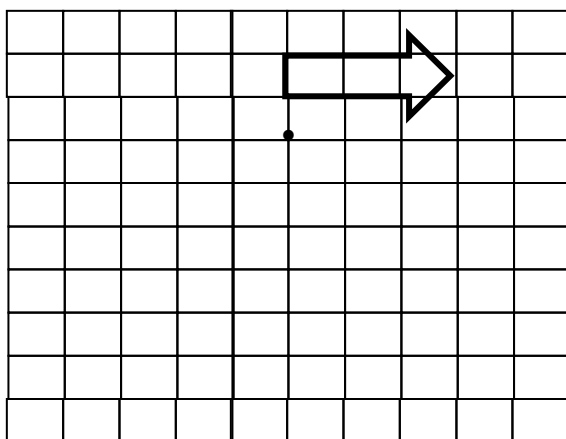
- ii) Use diagram of fraction strips to add

[2]

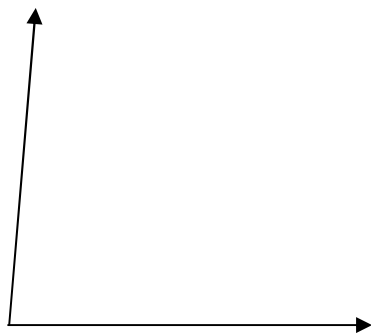
$$\frac{2}{3} + \frac{1}{4}$$

Question: 10

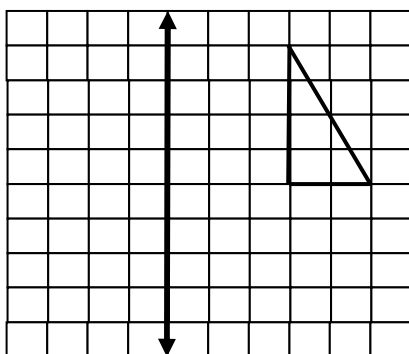
- a) i) Copy the shape in the grid paper provided and rotate it $\frac{3}{4}$ CCW around the turn centre. [2]



- ii) Using a protractor, measure the following angle and write the measurement. [1]



- b) Draw the image after the shape below has been translated 3 units left and 4 units down and then reflected across the line. [3]



Question: 11

a) Calculate

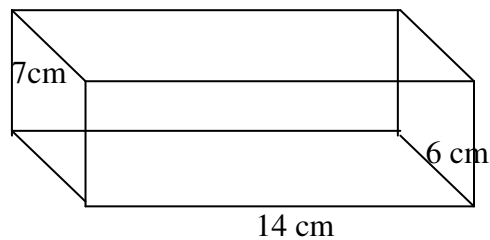
i) $21 - (2.5 \times 5) + 9.1 \div 1.3$ ii) $3.4 + 6 \div 1.2$

b) How many 0.25 litres cup can you fill from a milk of jar 2.75 litres? [2]

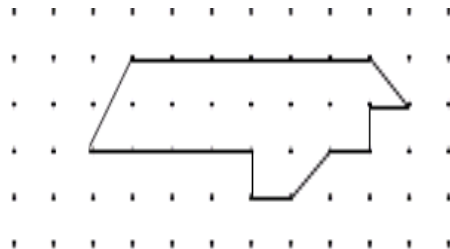
Question: 12

a) i) A triangle has an area of 54 cm^2 and a base of 8cm. What is its height. [1½]

ii) Calculate the volume [1½]



b) Find the area of the shape given in the grid below. [1½]

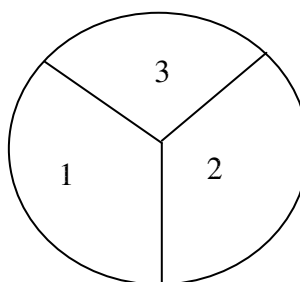


ii) Sketch and label a rectangular prism with a volume of 24 cm^3 . [1½]

Question: 13

a) On the spinner given on the right, what is the probability of:

- i) Spinning 3?
- ii) Spinning 1?



b) Create a set of 4 numbers with a mode of 6.

[1]

c) The table given below shows the monthly rainfall recorded in Phuntsholing town.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall (mm)	10	12	20	30	50	70	80	70	55	40	30	20

Draw a line graph for the above information.

[2]