INSTRUCTIONS:
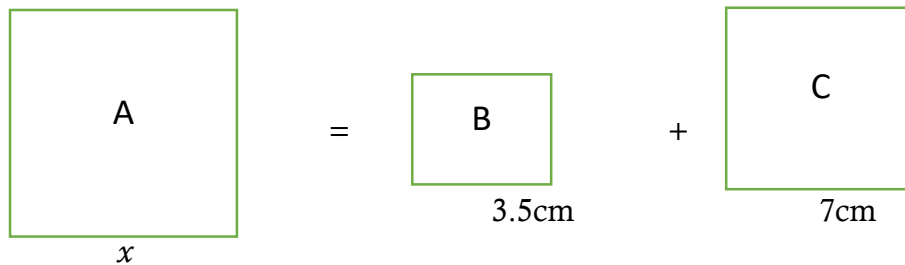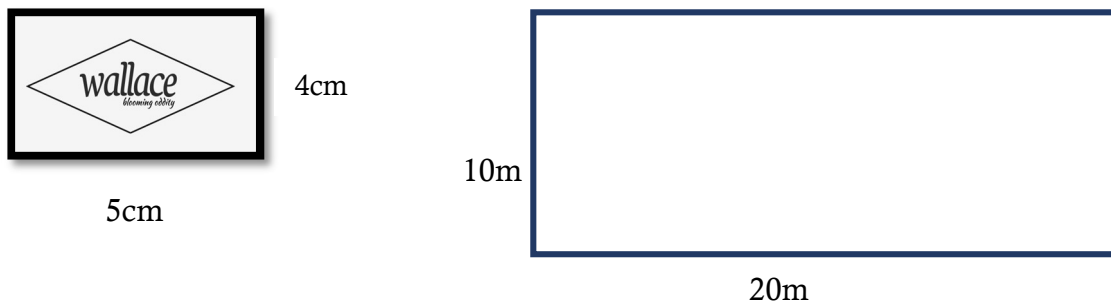
✓ Attempt all question in section and any **two** questions in section B with **number 11** being compulsory
✓ Answers should be on answer sheets provided
✓ where possible use graph papers

SECTION A

1. Through his life Lewis's heart has beat at an average rate of 72 beats per minute. Lewis is sixty years old. How many times has his heart beat during his life? (Give the answer in standard form correct two significant figures) (04 marks)

2. The area of square A is equal to the sum of the areas of squares B and C. find the length x, correct to 1 d.p.

3. A school has 360 students. On sports day, 95% of the students are present. Calculate;
   i)   How many students were absent
   ii)   If the 192 girls were present, how many boy were present? (04 marks)

4. The time required to cook a joint of meat in hours is given by the formula
   $T = (mass\ of\ joint) \times 3 + \frac{1}{2}$. Find the time taken when the (mass of joint) $= 2\frac{1}{2}$ kg. (03 marks)

5. Glenda has cut out logo of certain brand. She wants to fill in them window below.

   How many logo cut outs does she need to fill the window? (04 marks)

6. The reciprocal of 2 is $\frac{1}{2}$. The reciprocal of 7 is $\frac{1}{7}$. The reciprocal of x is $\frac{1}{x}$. Find the square root of the reciprocal of the square root of the reciprocal of ten thousand. (04 marks)

7. Copy and complete the bill to be paid by (04 marks)

6.5 kg of potatoes at shs.1200 per kg = ……………./=
4 k.g of beef at …………….. per kg   = 60,000/=
……….Jars of coffee at 2,280 per jar = 7980 /=
Total = ……………..../=

8. Booklets have mass of 19g each and they are posted in an envelope of mass 38g.

   a) Package consists of 15 booklets in an envelope. what is the total mass of the package

   b) The mass of another package is 475 g. how many booklets does it contain. (04 marks)

9. Ronah is driving from Ishingiro direction heading to Kampala.
   She reads a road sign
   She knows that it takes one hour to travel 50 km
   The time now is 10:00a.m Ishingiro wants to get to Kampala by 2:30pm.
   Will she be able to get to Kampala by 2.30 p.m.? (04 marks)

   Kampala

   450km

10. Answer the following questions in space provided(no working required) (1 mark each)
    i.   The larger angle between South-west and East is ……………………………..

    ii.   What is the value of m, if $mx^2 + x - 6 = 0$ $has\ a\ solution\ x = -2$?………………

    iii.   Put brackets to make the statement correct : $10 - 5 - 2 = 7$

    iv.   The area of a circle is 100π cm^2. The radius in cm, of the circle is:…………………..

    v.   Find two numbers which you multiply and together they give you 60 and add up to 19……

SECTION B (30 minutes)

11. Naomi records the size of the 34 pairs of shoes that her shop sells in one day.

    4 10 5 6 4 8 6 4 7 3 9 7 4

    7 3 5 4 6 5 10 7 5 5 6 4 7

    7 6 6 5 5 3 5 6

a) Use the list above to complete the frequency table   (03 marks)

Shoe-size	3	4	5	6	7	8	9	10
frequency								

b) Calculate the percentage of all the pairs of shoes that are size 7.   (02 marks)

c) Naomi order 306 pairs of shoes to sell in her shop. Estimate how many of these pairs should be size 7.   (02 marks)

d) <u>Data collection skills</u>

Develop a questionnaire for survey that you can conduct in your society

Guidelines

i.   Provide an introduction to the sheet so that people so that people know the purpose of the survey

ii.   Make questions easy to understand and specific to answer e.g.

> How many matches did you watch?
>
> Not at all ☐   some of them ☐   all matches ☐

iii.   Ensure it checks people's opinions of other people, clear questions and straight options

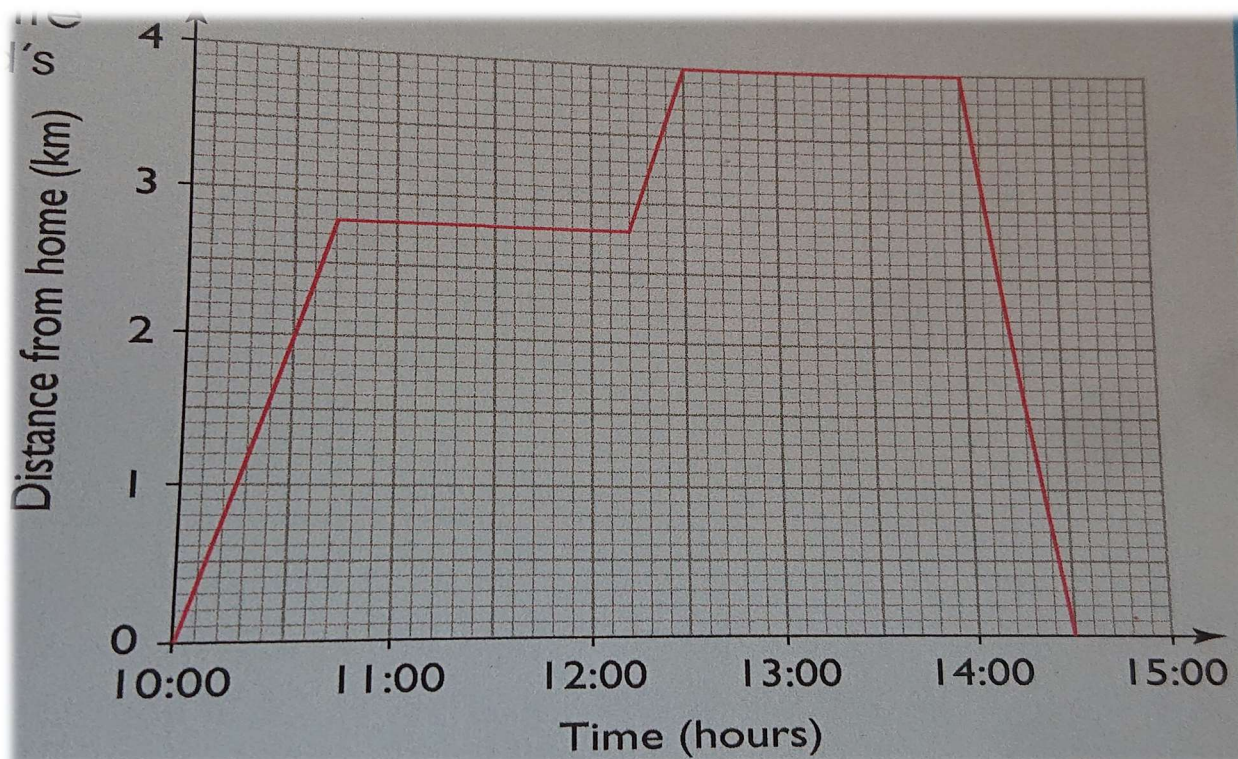> What is your favorite TV?
>
> NBS ☐   NTV ☐   KBS ☐   Bukedde ☐

iv.   For metric data you could use the range of values for options

> How many siblings do you have?
>
> ◯ 0 – 2   ◯ 4 – 5   ◯ above 6

TASK: design a questionnaire of not less than **four** questions for a survey you can conduct either at school or home. TOPICS to consider (Food, TV, games, Health, welfare, family, leadership, school, clothing)   (08marks)

12. a) Millie walks from her house to the sports Centre to meet a friend. She then walks to her friend's house and then return home on bus. The travel graph shows Millie's journey.
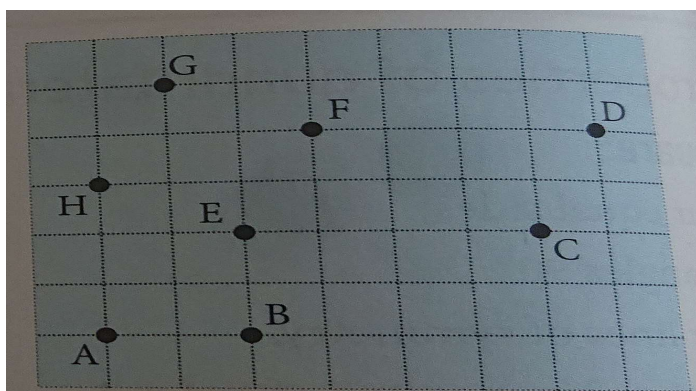

i) How far is the sports Centre from Millie house? (02 mark)

ii) How long does she stay at sports Centre? (02 mark)

iii) What time does Millie arrive at her friend's house? (02 marks)

iv) What is the average speed of the whole journey? (04 marks)

b) Use a Cartesian plane to show the following inequality represented by $2x + 3y < 12$

(05 marks)

13. a) if $a = \begin{pmatrix} 1 \\ 7 \end{pmatrix}$ and $b = \begin{pmatrix} -2 \\ 3 \end{pmatrix}$. Find the value of the $3a + 4b$. (02 marks)

b) Name each of the following shapes: (03 marks)

a) ABEH
b) EFGH
c) CDFE

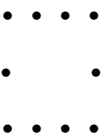c) The HCF of numbers X and 42 is 14 and LCM of X and 42 is 84. Find the value of X.
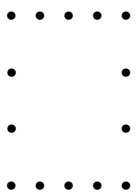
(03 marks)

d) Workout using a calculator and write down all values your calculator displays

$$\frac{12.48 \times 0.063}{7.52 + \sqrt[3]{8}}$$

(02 marks)

e) Each diagram in the sequence below consists of a number of dots

Diagram number	1	2	3

i)   Draw a diagram number 4 and diagram number 5

ii)   Copy and complete the table below

Diagram number	Number of dots
1	6
2	10
3	
4	
5	

(05 marks)

END

"Most beautiful language of Mathematics, have fun"