

# THE SIPRO PRE-PLE SET II 2022

## MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

Index No.	Random No.						Personal No.		
Candidate's Name: _____									
Candidate's Signature: _____									
School Random No: _____									
District ID: _____									

### READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. This paper has two sections: A and B.
2. Section A has 20 questions (40 Marks).
3. Section B has 12 questions (60 Marks).
4. Attempt all questions in both sections. All answers to both sections A and B must be written in the spaces provided.
5. All answers must be written in blue or black ball point pens or *ink*. Only diagrams and graph work must be done in *pencil*.
6. Unnecessary *alteration* of work will lead to loss of marks.
7. Any *handwriting* that cannot be easily read may lead to loss of marks.
8. Do not fill anything in the boxes indicated:

"FOR EXAMINER'S USE ONLY"

### For Examiner's Use Only;

PAGES	MARKS	INITIALS
Page 1		
Page 2		
Page 3		
Page 4		
Page 5		
Page 6		
Page 7		
Page 8		
Page 9		

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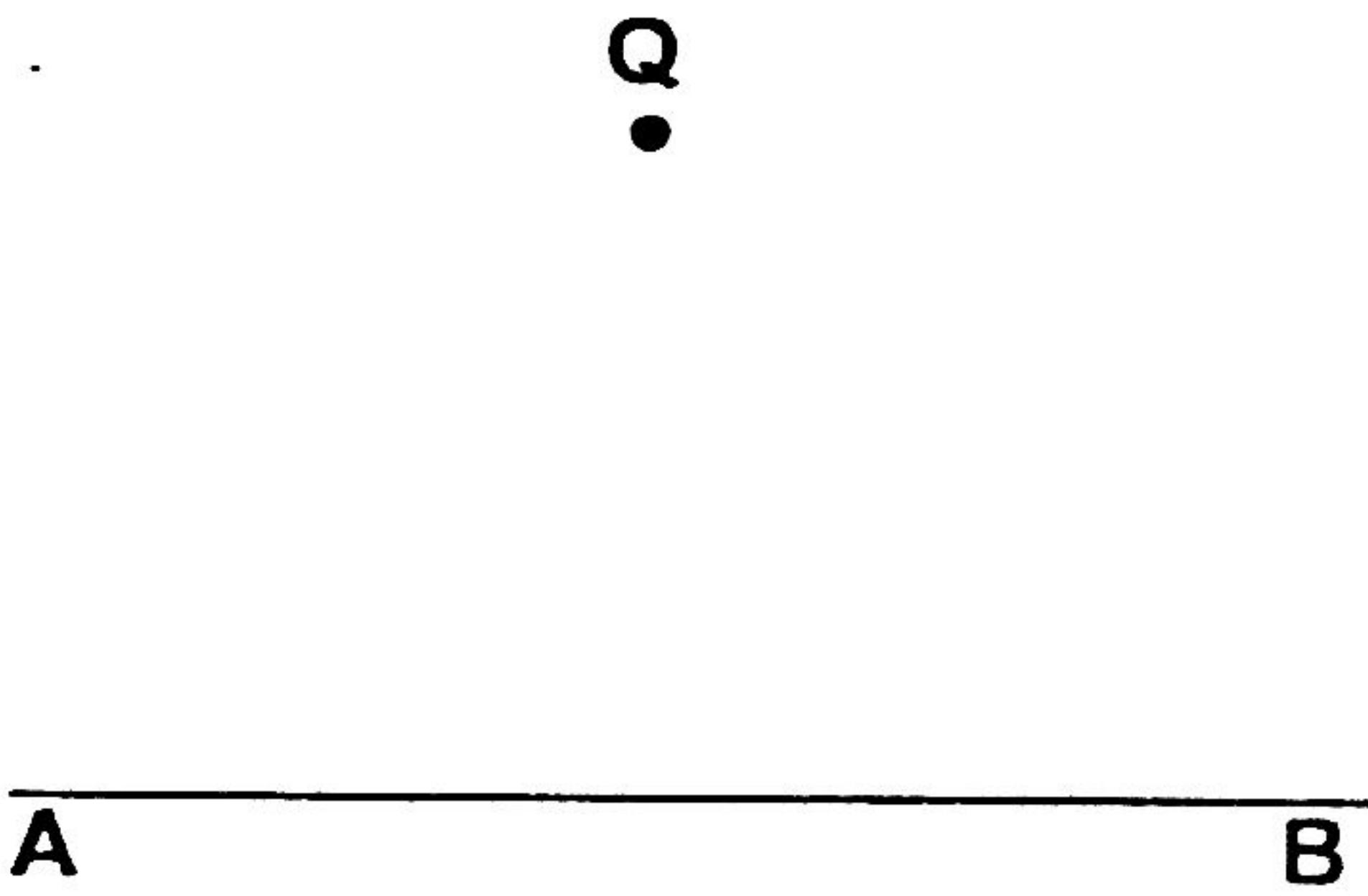


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**SECTION A: 40 MARKS**

*Questions 1 to 20 carry two marks each*

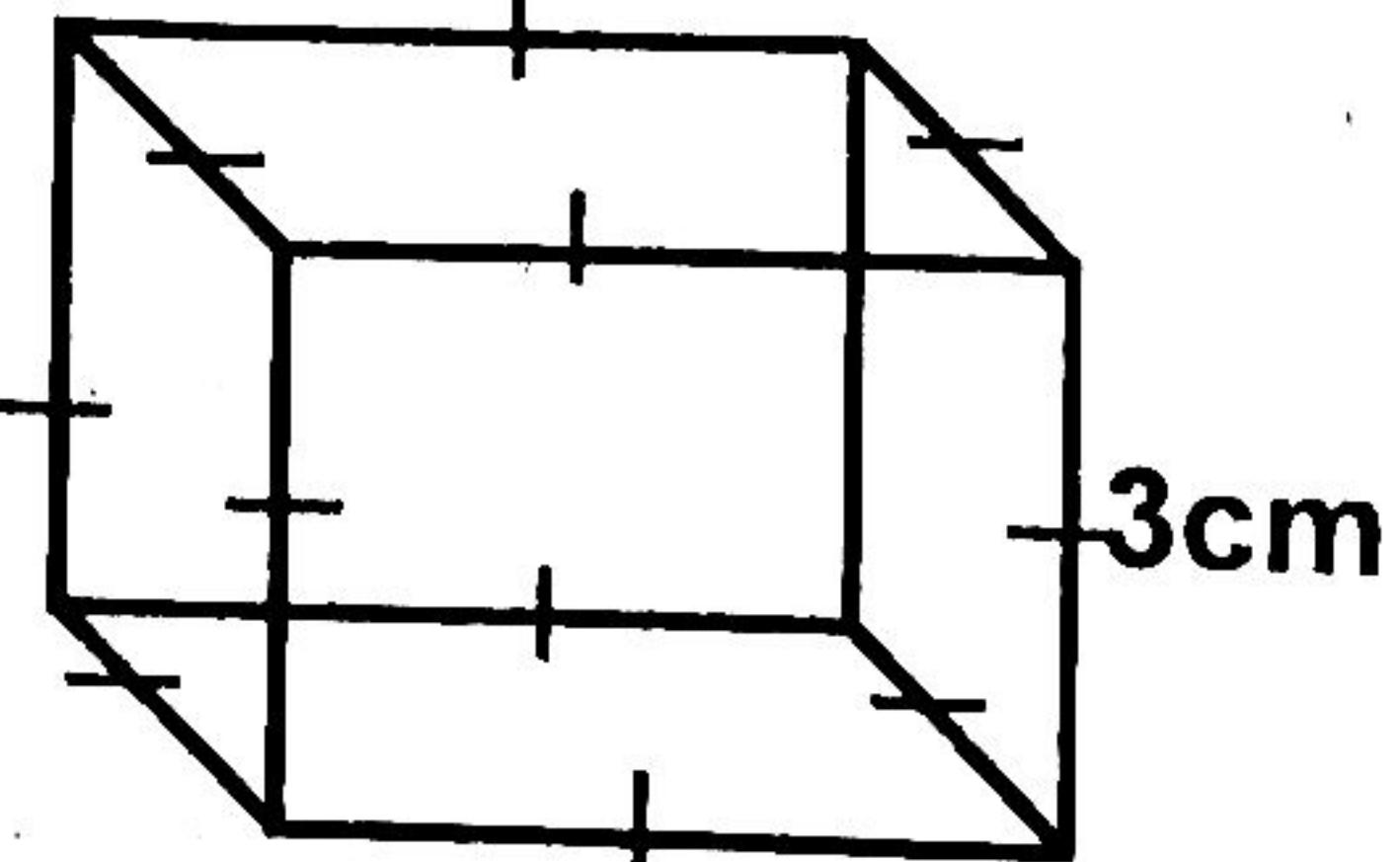
1	Work out: $15 \div 3$	2	Convert: $111_{\text{two}}$ to base ten.
3	Round off <b>89.96</b> to the nearest tenths.	4	If set $Z = \{a, b, c\}$ . Fill in the missing proper subsets of set $Z$ : $\{a\}, \{b\}, \{c\}, \{a, b\}, \underline{\quad}, \{b, c\},$ $\underline{\quad}$
5	With help of a ruler, a sharp pencil and a pair of compasses only, construct a perpendicular line from point Q to meet line AB at O  	6	Use distributive property to work out $(324 \div 9) + (153 \div 9)$ .
7	A mathematics examination which started at 08 20hrs lasted for 150 minutes. At what time did it end?	8	Find the mean of $\frac{7}{9}, \frac{2}{9}, \frac{1}{9}$ and $\frac{4}{9}$



9	Use a dial to work out: $4 \times 3 = \underline{\hspace{2cm}}$ (finite 7)	10	The cost of 1kg of porridge flour is sh. 7,500. How many kilograms of porridge flour would Sarah buy with sh. 45000 at the same rate?
11	Find the number whose scientific notation is $3.95 \times 10^2$ .	12	In the venn diagram below, show the region $(D - E) \cup$
13	Given that $a = 7 + 2$ and $b = 7 - 2$ Find the value of $a - b$ .	14	Express $0.\overline{23333}$ ... as a common fraction.
15	Charles ran a distance of 200m in 2 minutes. What speed in km/hr was he running?	16	A Primary Seven pupil counted buses along Gulu Highway on a certain day as follows:  How many buses did the pupil count that day?



17 Calculate the total length of all edges of the cube drawn below.



18 Find the **quotient** of the fifth and second number in the sequence:  
4, 9, 16, 25, \_\_\_\_\_

19 Solve for y in the equation:

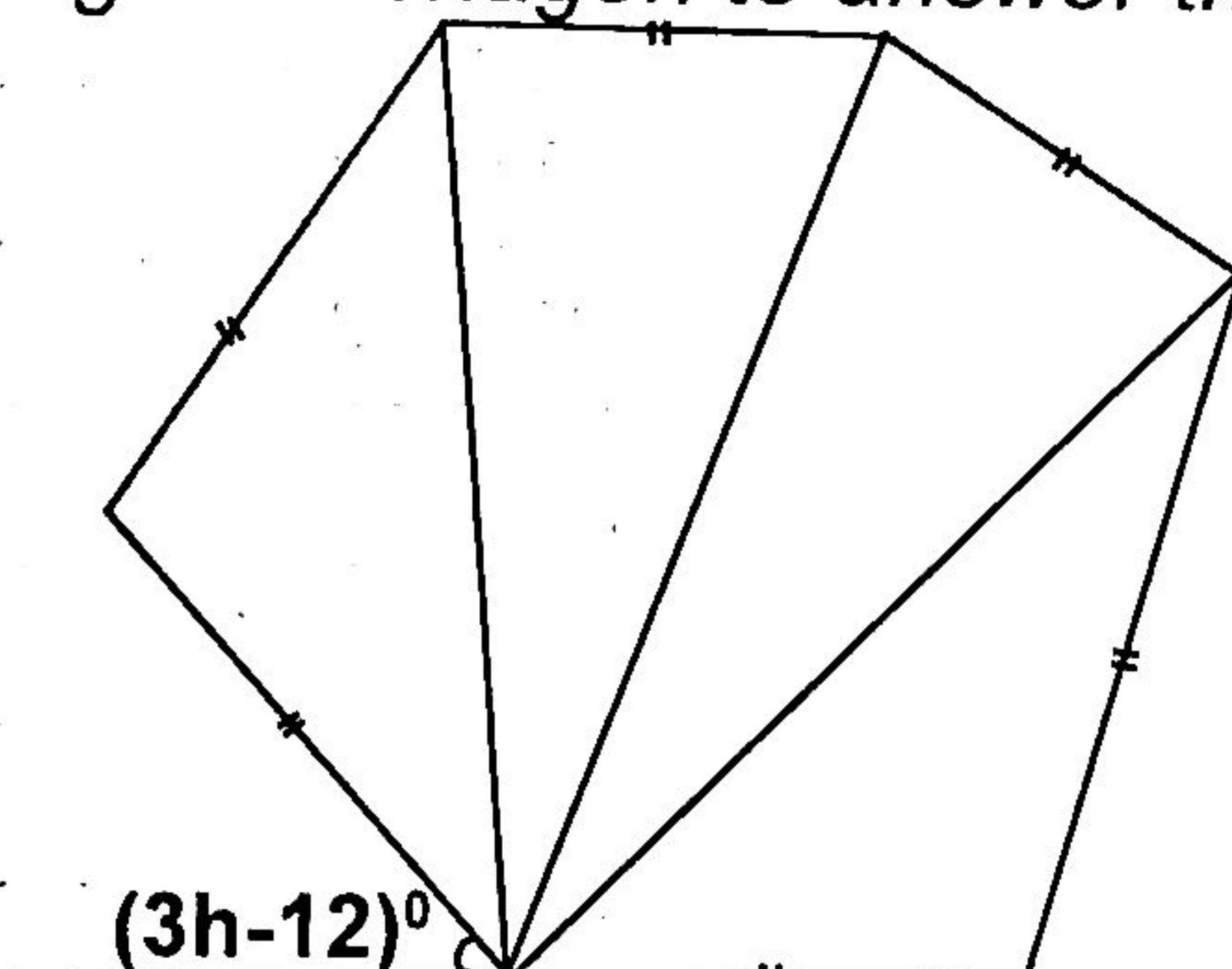
$$\frac{1}{2}y + y = 3$$

20 Write 2795 in expanded form using powers of ten.

### SECTION B: 60 MARKS

Marks for each part of the question are indicated in the brackets

20 Use the drawn regular hexagon to answer the questions that follow.



a) Find its **interior angle sum**.

b) Work out the value of h.

(02 marks)

(03 marks)



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IGNITE CRITICAL THINKING AND EXPERIENCE ACTUAL LEARNING WITH THE ACTIVITY BOOKS, SEMAS, TEACHER'S GUIDES & PUPIL'S COMPANIONS.

22

Takali bought the following items from the supermarket as shown in the table below.  
Complete the blank spaces.

a)

Item	Quantity	Unit cost	Total cost
Rice	2 $\frac{1}{2}$ kg	sh. 4800 per kg	sh. _____
Meat	0.5 kg	sh. _____ per kg	sh. 8000
Sugar	_____ kg	sh. 3500 per kg	sh. 8750
Soap	2 bars	sh. _____ per bar	sh. _____
<b>Expenditure</b>			sh. 41750

(05 marks)

23a)

The Ministry of Public Service revised the salary payment of its workers from sh. 480,000 to sh. 500,000. Calculate the percentage **increase**.

(02 marks)

b)

Find the money which was deposited in the bank at an interest rate of 5% per year that amounts to sh. 264,000 after a period of 2 years.

(02 marks)



24

The table shows 10 pupils who sat for a mathematics test at ABC Primary School. Use it to answer the questions that follow.

Marks scored	70	60	55	100
Number of pupils	2	Y	4	1

- a) How many pupils scored 60 marks?
- b) Calculate the average mark of pupils who scored marks above 55. (02 marks)
- (03 marks)
- 25a) Add:  $111_{\text{two}} + 111_{\text{two}}$
- b) Given that  $104_w = 29$ . Find the value of w.
- (02 marks) (03 marks)
- 26a) With the help of a ruler, a pencil and a pair of compasses only, construct a quadrilateral NBRS where angle NBR =  $45^\circ$ , NB = RS = 5cm, BR = NS = 7cm.
- (04 marks)



b) What is the name of the figure formed?  
\_\_\_\_\_

(01 mark)

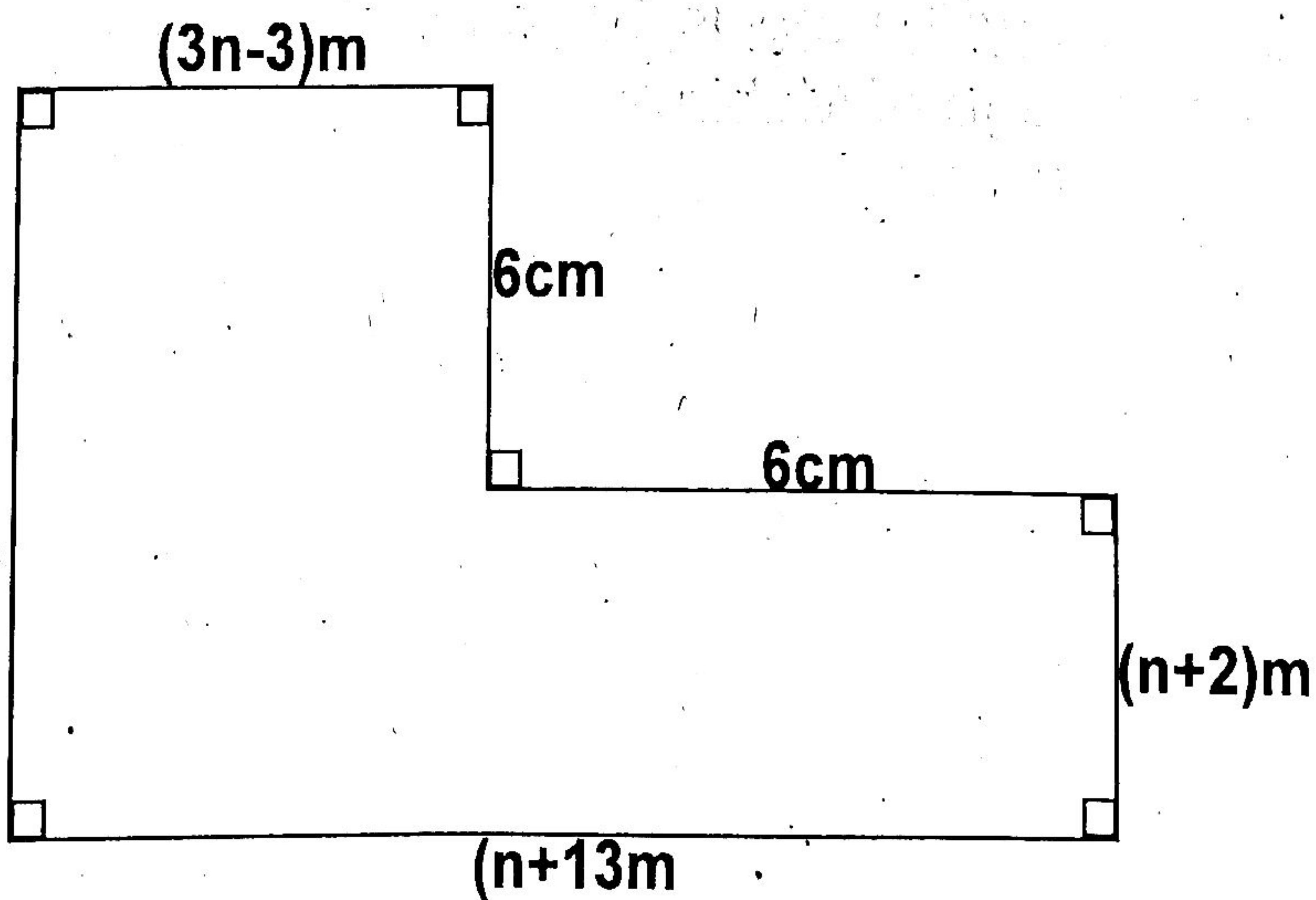
c) Measure angle BRS .....cm

(01 mark)

27 A Link Bus driver took 2 hours to drive from Fort Portal to Mubende at a speed of 75km/h. He returned to Fort Portal at a speed of 50km/h. Work out the average speed of the bus for the whole journey.

(04 marks)

28 Use the diagram below to answer the questions that follow.



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<p>(a) Find the value of n.</p>	<p>(03marks)</p>	<p>b) Calculate the perimeter of the shape.</p>
<p>29a) Solve and give the solution set for the inequality <math>3 - 2y &lt; 7</math>.</p>		<p>(03marks)</p>
<p>b) Mubiru is 18yrs old and Mutebi is 40 years old. In how many years will Mutebi be twice the age of Mubiru?</p>		<p>(02 marks)</p>



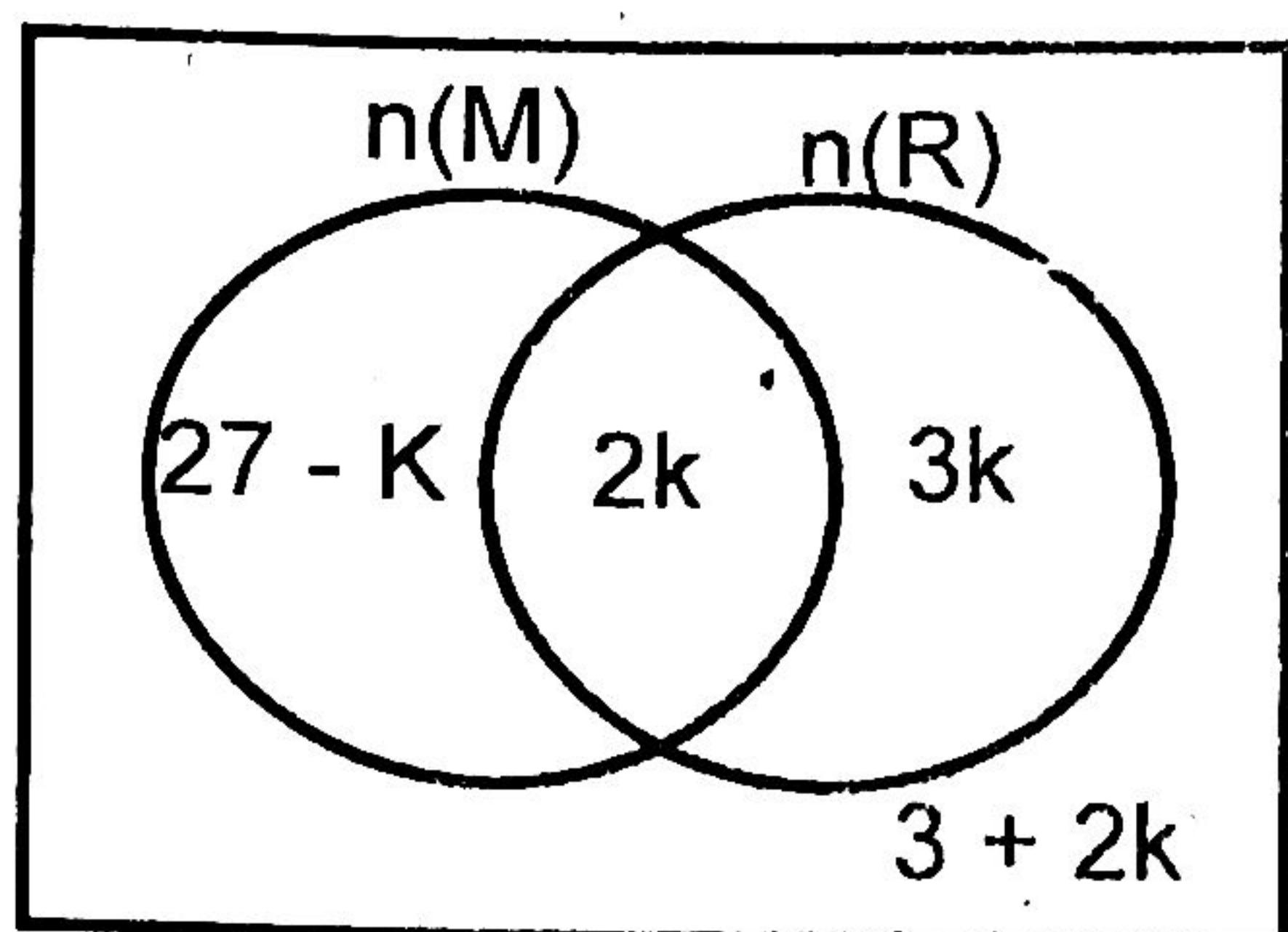
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30

The venn diagram below shows the number of candidates who were served two kinds of food; Matoke (M) and rice (R) at the leaver's party.



a)

If 11 candidates were served neither matoke nor rice, find the value of K.

b)

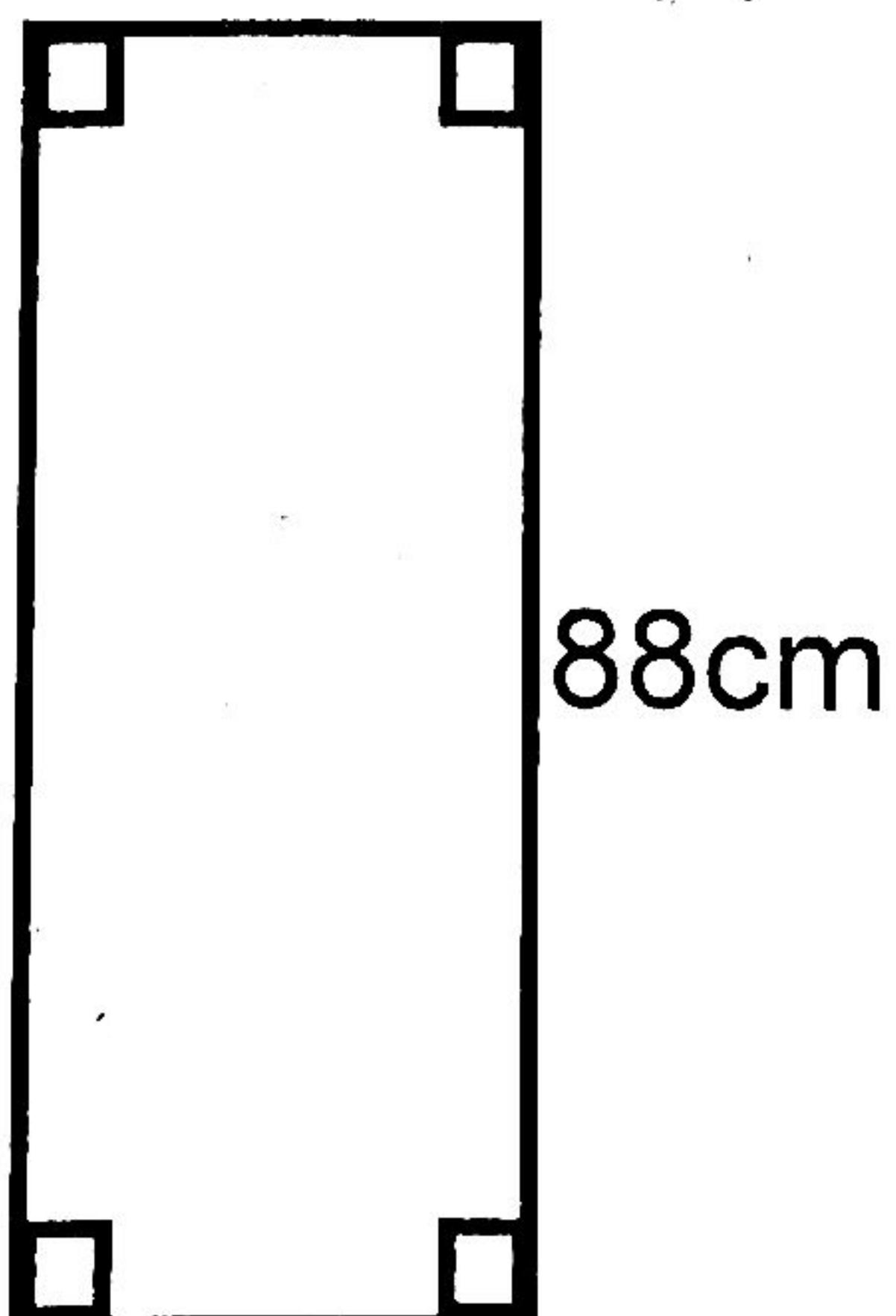
How many **candidates** attended the party?

(02 marks)

(02 marks)

31 The figure below shows a rectangular sheet which is **folded** to form a hollow cylindrical tank.

30cm



b)

Find the radius of the cylindrical tank formed.

c)

Calculate the capacity of the cylindrical tank formed.

(02marks)

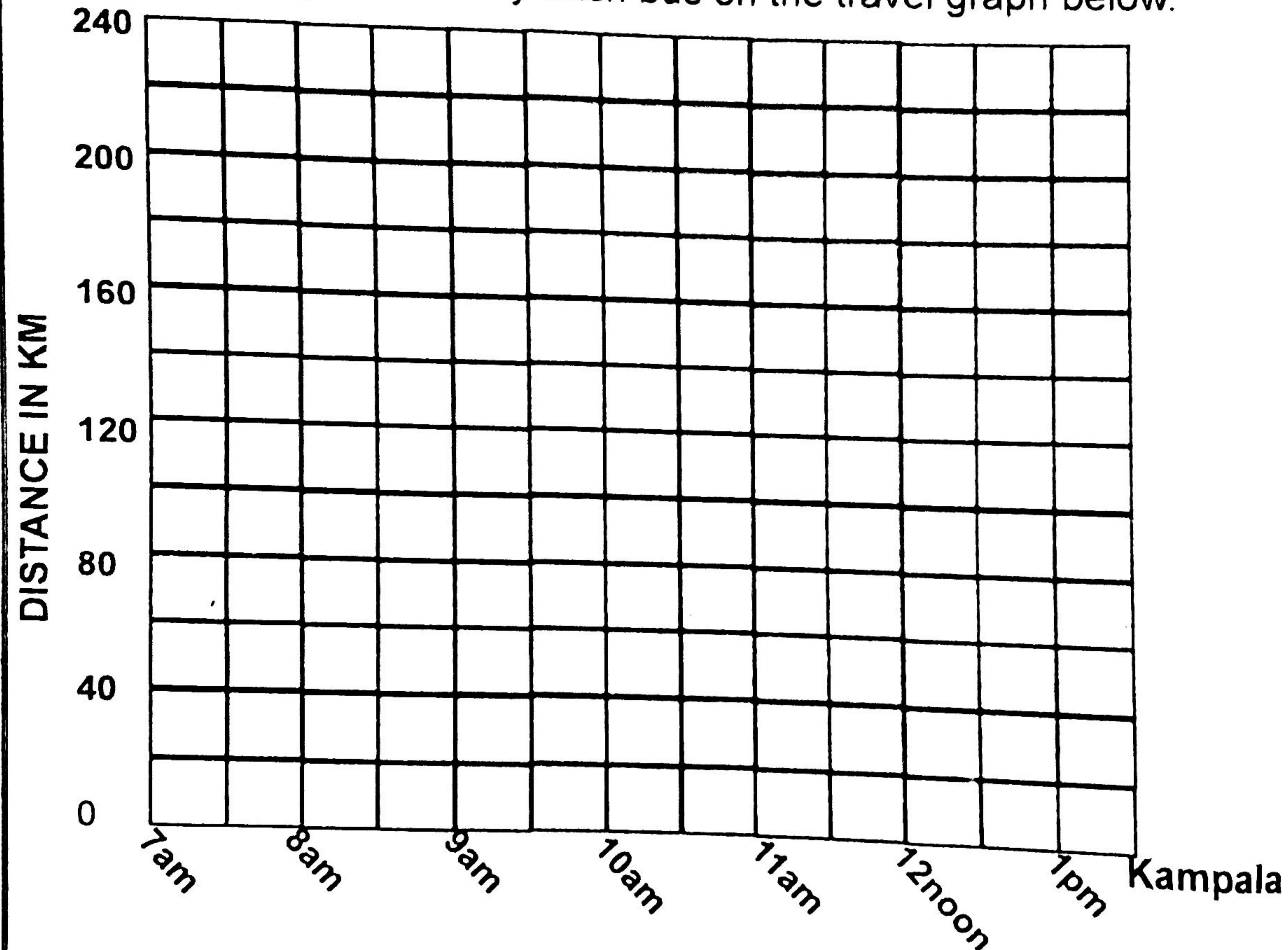
(03marks)

32

Kampala is 240km from Mbale. If two buses YY bus and Teso bus leave Kampala bus park at 7:00am for Mbale at a speed of 80km/hr and 60km/h respectively;

a)

Show the journey covered by each bus on the travel graph below.



b)

What distance had the Teso bus covered when YY bus arrived in Mbale? (04marks)

(02marks)

