



UGANDA NATIONAL EXAMINATIONS BOARD

PRIMARY LEAVING EXAMINATION

2025

MATHEMATICS

Total mark scored	100%
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Time Allowed: 2 hours 30 minutes

Random No.						Personal No.		

Candidate's Name:

Candidate's Signature.

District ID No:

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Read the following instructions carefully:

1. Do not write your **school** or **district name** anywhere on this paper.
2. This paper has **two** sections: **A** and **B**. Section **A** has **20** questions and section **B** has **12** questions. The paper has **15 printed** pages.
3. Answer **all** the questions. **All** working for both sections **A** and **B** must be shown in the spaces provided.
4. **All** working **must** be done using a **blue** or **black** ball point pen or ink. Any work done in pencil other than graphs and diagrams will **not** be marked.
5. **No calculators** are allowed in the examination room.
6. Unnecessary **changes** in your work and handwriting that cannot be easily read may lead to **loss of marks**.
7. Do not fill anything in the table indicated **"FOR EXAMINERS USE ONLY"** and the boxes inside the question paper.

FOR EXAMINERS' USE ONLY		
QN. NO.	MARKS	EXR'S NO.
1 – 5	10	
6 – 10	10	
11 – 15	10	
16 – 20	10	
21 – 22	10	
23 – 24	08	
25 – 26	10	
27 – 28	11	
29 – 30	10	
31 – 32	11	
TOTAL	100	

UNEBC MTC

SECTION A: 40 MARKS

Answer **all** the questions in this section.
Questions **1** to **20** carry **two** marks each.

1. Write 5,326 in words.

Thousands	Units
5	3 2 6

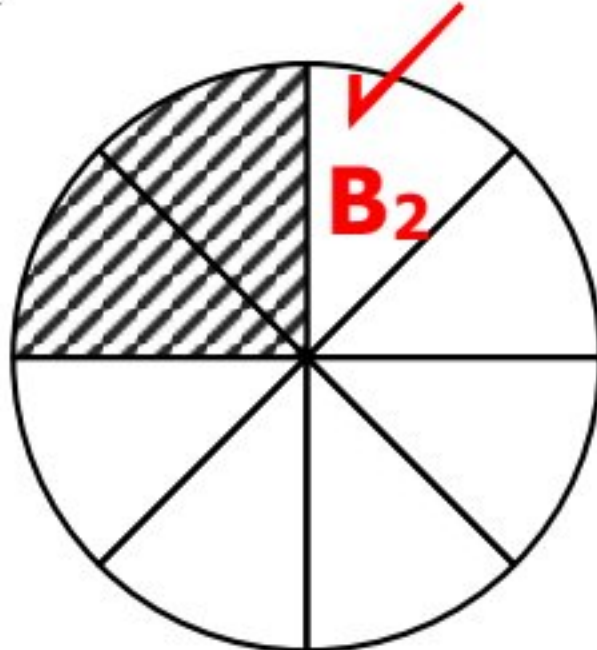
Five thousand, three hundred twenty-six. ✓ B₂

2. Use the symbol =, < or > to complete the statement:

$$-3 \dots\dots +3$$

✓ B₂

3. Shade $\frac{1}{4}$ of the diagram below.



$$\frac{1}{4} \times \frac{2}{1} \times 8 \text{ parts}$$

$$1 \times 2 \text{ parts}$$

2 parts ✓

Note:

Shading must be done using a pencil.

4. Convert 1,560 grammes to kilogrammes.

1,000 grammes = 1 kilogramme

1,560 grammes = $\left(\frac{1560}{1000}\right)$ kilogrammes ✓ B₁

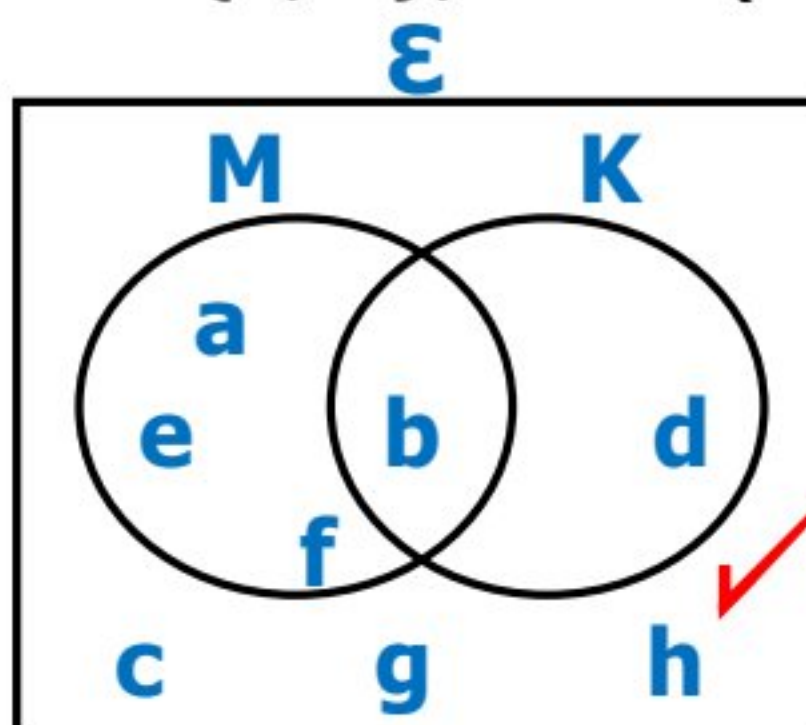
1,560 grammes = 1.56 kilograms ✓ B₁

Accept:

$$\frac{156 \div 4}{100 \div 4}$$

$$\frac{39}{25} = \underline{1 \frac{14}{25} \text{ kg}}$$

5. Given that $\mathcal{E} = \{a, b, c, d, e, f, g, h\}$, $M = \{a, b, e, f\}$ and $K = \{b, d\}$, find $n(M \cup K)'$.



$$(M \cup K)' = \{c, g, h\}$$

$$n(M \cup K)' = \underline{3}$$

Accept:

$$\mathcal{E} = \{a, b, c, d, e, f, g, h\}$$

$$M \cup K = \{a, b, d, e, f\}$$

$$(M \cup K)' = \{c, g, h\}$$

$$n(M \cup K)' = \underline{3}$$

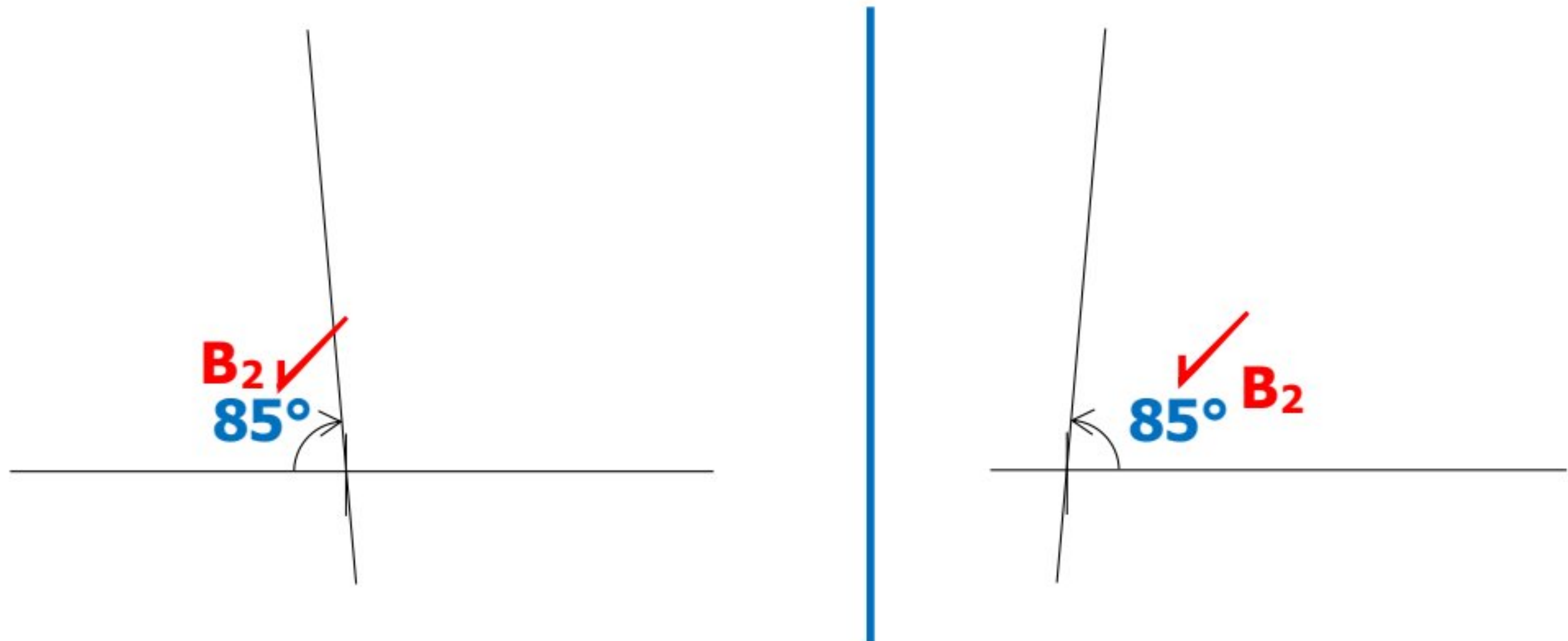
10

6. Find the next number in the sequence:

128, 64, 32, 16, \checkmark **B₁**
 $\div 2 \quad \div 2 \quad \div 2 \quad \div 2$ \checkmark **B₁**

$$16 \div 2 = \underline{8} \checkmark$$

7. Using a protractor, draw an angle of 85° in the space below.



8. Round off 37,594 to the nearest thousands.

T/Th	Th	H	T	O
3	7	5	9	4

$$37000 + 594$$

$$37000$$

$$+ 1000$$

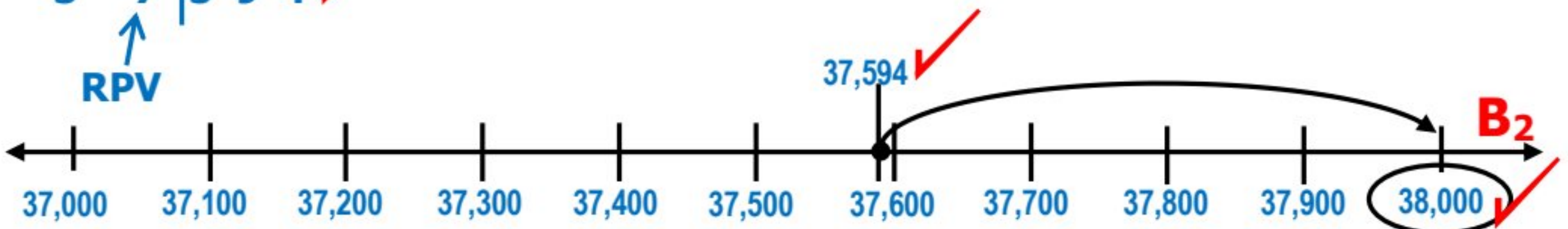
$$\underline{38000}$$

$$\therefore 37,594 \approx 38,000$$

Accept

T/Th	Th	H	T	O
3	7	5	9	4

RPV



9. There were 6,625 people who attended a football match. Out of this number, 5,879 were adults and the rest children. Calculate the number of children who attended the football match.

$$\begin{array}{r} 6,625 \text{ people} \\ - 5,879 \text{ adults} \\ \hline 746 \text{ children} \end{array} \checkmark \text{ B}_2$$

10. Work out: $(25 \times 26) + (24 \times 25)$.

$(26 + 24) \times 25 \checkmark B_1$ 50×25 $\begin{array}{r} 50 \\ \times 25 \\ \hline 250 \\ + 100 \\ \hline 1250 \checkmark B_1 \end{array}$	<p><u>Accept:</u></p> $(26 \times 25) + (24 \times 25)$ <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> $\begin{array}{r} 13 \\ 26 \\ \times 25 \\ \hline 130 \\ + 52 \checkmark \\ \hline 650 \end{array}$ </td> <td style="width: 50%; vertical-align: top;"> $\begin{array}{r} 2 \\ 24 \\ \times 25 \\ \hline 120 \\ + 48 B_1 \\ \hline 600 \checkmark \end{array}$ </td> </tr> </table>	$\begin{array}{r} 13 \\ 26 \\ \times 25 \\ \hline 130 \\ + 52 \checkmark \\ \hline 650 \end{array}$	$\begin{array}{r} 2 \\ 24 \\ \times 25 \\ \hline 120 \\ + 48 B_1 \\ \hline 600 \checkmark \end{array}$	$\begin{array}{r} 650 \\ + 600 \\ \hline 1250 \checkmark B_1 \end{array}$ <div style="border: 1px solid black; width: 40px; height: 40px; display: flex; align-items: center; justify-content: center; margin-top: 10px;"> 10 </div>
$\begin{array}{r} 13 \\ 26 \\ \times 25 \\ \hline 130 \\ + 52 \checkmark \\ \hline 650 \end{array}$	$\begin{array}{r} 2 \\ 24 \\ \times 25 \\ \hline 120 \\ + 48 B_1 \\ \hline 600 \checkmark \end{array}$			

11. Given that $a = \frac{1}{2}$ and $b = 12$, find the value of $8a + ab$.

$$(8 \times a) + (a \times b)$$

$$\begin{array}{c} 4 \\ \cancel{8} \times \frac{1}{\cancel{2}} \end{array} + \begin{array}{c} 6 \\ \frac{1}{\cancel{2}} \times \cancel{12} \end{array} \checkmark B_1$$

$$\begin{array}{r} 4 + 6 \\ \hline 10 \checkmark B_1 \end{array}$$

12. Atim took 200 oranges to sell in a market. She sold every 4 oranges for sh 1,500. Find the amount of money she got from selling all the oranges.

$\begin{array}{r} 50 \\ \cancel{200} \\ 4 \\ 1 \end{array} \times \text{sh } 1,500 \checkmark B_1$ $\text{sh } 75,000 \checkmark B_1$	$\begin{array}{r} 2 \\ \text{sh } 1,500 \\ \times 50 \\ \hline 0000 \\ + 7500 \\ \hline \text{sh } 75000 \checkmark \end{array}$	<p><u>Accept</u></p> $\begin{array}{r} 375 \\ \cancel{\text{sh } 1500} \\ 4 \\ 1 \end{array} \times 200 \checkmark B_1$ $\text{sh } 75,000 \checkmark B_1$	$\begin{array}{r} 11 \\ \text{sh } 375 \\ \times 2 \\ \hline \text{sh } 750 \checkmark \end{array}$
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13. Find the median of the following numbers; 6, 13, 7, 11, 15, 9.

$6, 7, 9, 11, 13, 15 \checkmark B_1$ $\begin{array}{c} \text{---} \\ \quad \quad \quad \\ \text{---} \\ 9 + 11 \\ \hline 20 \\ 20 \div 2 \\ \hline 10 \checkmark B_1 \end{array}$	<p><u>Accept</u></p> $15, 13, 11, 9, 7, 8 \checkmark B_1$ $\begin{array}{c} \text{---} \\ \quad \quad \quad \\ \text{---} \\ (11 + 9) \div 2 \\ \hline 20 \div 2 \\ \hline 10 \checkmark B_1 \end{array}$
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14. Peter is twice as old as Abdul. The sum of their ages is 72 years. Find the age of Abdul.

Let Abdul's age be k.

Abdul	Peter	Sum
k	2k	72

$$k + 2k = 72 \quad \checkmark M_1$$

$$3k = 72$$

$$\begin{array}{r} 1 \\ 3k = 72 \\ 3 \\ 1 \end{array}$$

$$k = 24 \quad \checkmark A_1$$

\therefore Abdul is 24 years old.

15. A man borrowed sh 2,000,000 from a bank. After 2 years, he paid an interest of sh 720,000. Calculate the interest rate per year.

$$P \times R \times T = SI$$

$$sh\ 2,000,000 \times \frac{R}{100} \times 2 = sh\ 720,000 \quad \checkmark M_1$$

$$sh\ 40,000 \times R = sh\ 720,000$$

$$\frac{sh\ 40,000 \times R}{sh\ 40,000} = \frac{sh\ 720,000}{sh\ 40,000}$$

$$R = 18\% \quad \checkmark A_1$$

Accept

$$R = \frac{SI \times 100}{P \times T}$$

$$R = \frac{sh\ 720,000 \times 100}{sh\ 2,000,000 \times 2} \quad \checkmark M_1$$

$$R = 18\% \quad \checkmark A_1$$

10

16. Annet visited her aunt in March, 2025. She will visit her again after 16 months. Find the month and the year Annet will visit her aunt.

Year	J	F	M	A	M	J	J	A	S	O	N	D
2025			V	1	2	3	4	5	6	7	8	9
2026	10	11	12	13	14	15	16					

Annet will visit her aunt in July, 2026. $\checkmark B_1$

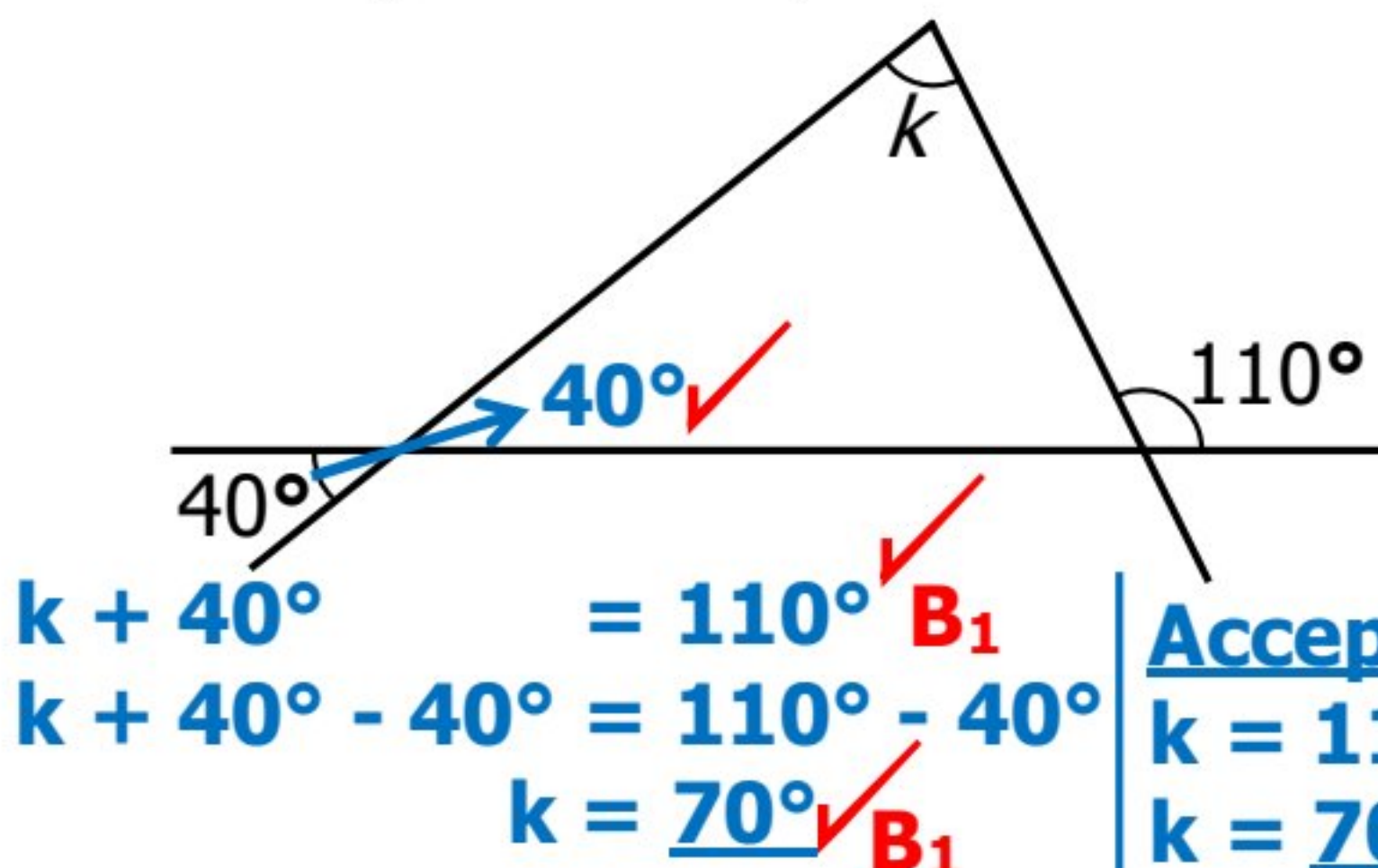
Accept $\checkmark M_1$

$$3 + 16 = _ \pmod{12}$$

$$19 \div 12 = 1 \text{ r } 7 \pmod{12}$$

7 rep July
Annet will visit
her aunt in July,
2026. $\checkmark A_1$

17. In the diagram below, find the value of k.

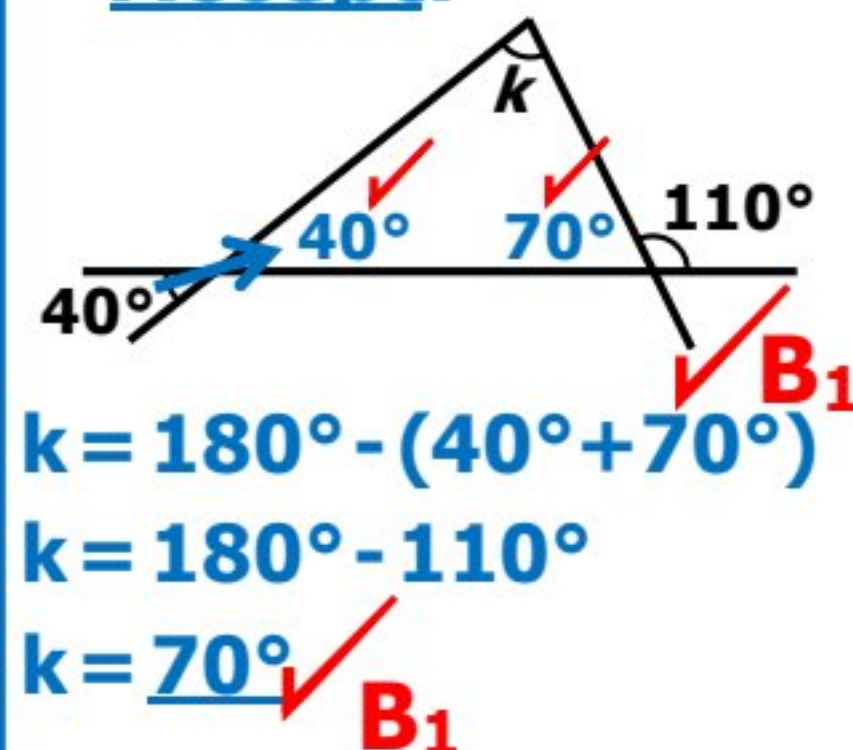


Accept:

$$k = 110^\circ - 40^\circ$$

$$k = 70^\circ \quad \checkmark B_1$$

Accept:



- 18.** A teacher made a rectangular chart 85 cm long and 60 cm wide. The teacher fastened a tape along the edges of the chart. Find the length of the tape used.



60 cm

85 cm

$$\begin{array}{r} 1 \\ 85 \text{ cm} \\ \times 2 \\ \hline 170 \text{ cm} \end{array}$$

Perimeter = $2L + 2W$

$(2 \times 85 \text{ cm}) + (2 \times 60 \text{ cm})$

$170 \text{ cm} + 120 \text{ cm}$

290 cm

The tape used was 290 cm long.

- 19.** The table below shows the uniform time intervals at which a nurse is to check on a patient in a hospital ward.

Interval	1 st	2 nd	3 rd	4 th	5 th
Time	7:30 a.m.	9:50 a.m.	12:10 p.m.	2:30 p.m.	4:50 p.m.

Find the time when the nurse will check on the patient in the 4th interval.

Duration from one interval to another.

Hours	Minutes
9	50
- 7	30
2	20

2 hours 20 minutes

Time for the 4th interval.

Hours	Minutes
12	10
+ 2	20
14	30

14 30 hours

Time for the 4th interval in 12-hour clock system.

14 30 hours
- 12 00
2:30 p.m.

∴ The nurse will check on the patient in the 4th interval at 2:30 p.m.

- 20.** Fatuma rolled a die once and observed the outcome. State the probability that the face on top shows a factor of 3.

$S = \{1, 2, 3, 4, 5, 6\}$

$n(S) = 6$

$E = \{1, 3\}$

$n(E) = 2$

Probability = $\frac{n(E)}{n(S)}$

$\frac{2}{6}$

Accept

$\frac{1}{3}$

SECTION B: 60 MARKS

*Answer **all** the questions in this section.
Marks for each question are indicated in the brackets.*

- 21.** (a) Find the value of n and m in the base five addition.

$\begin{array}{r} 1\overset{1}{m}2_{\text{five}} \\ + 224_{\text{five}} \\ \hline 40n_{\text{five}} \end{array}$	$\begin{aligned} n &= 2 + 4 \\ n &= 6 \div 5 \\ n &= 1 \text{ rem } 1 \\ n &= \underline{1} \checkmark B_1 \\ m+1+2 &= 0 \\ m+3 &= 0 \end{aligned}$	$\begin{aligned} m+3-3 &= 0-3 \\ m &= (0+5)-3 \\ m &= 5-3 \\ m &= \underline{2} \checkmark B_1 \end{aligned}$
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(02 marks)

- (b) Write the number which has been expanded below.

$(6 \times 10^4) + (3 \times 10^2) + (5 \times 10^1) + (9 \times 10^0).$ (02 marks)

$(6 \times 10 \times 10 \times 10 \times 10) + (3 \times 10 \times 10) + (5 \times 10) + (9 \times 1)$

$(6 \times 10,000) + (3 \times 100) + (5 \times 10) + (9 \times 1)$

$60,000 + 300 + 50 + 9 \checkmark B_1$

$\underline{60,359} \checkmark B_1$

- 22.** In a shop, a mathematical set costs sh 5,000, a dozen of exercise books costs sh 24,000 and a pen costs half the price of a book. A teacher bought 8 mathematical sets, 3 exercise books and 5 pens from the shop. Calculate the total amount of money the teacher spent on all the items. (06 marks)

Total cost of 8 mathematical sets.

$\text{sh } 5,000 \times 8$
 $\underline{\text{sh } 40,000} \checkmark B_1$

Unit cost of an exercise book.

1 dozen = 12 books

$\text{sh } 24,000 \div 12$

$\underline{\text{sh } 2,000} \checkmark B_1$

An exercise book costs sh 2,000. \checkmark

Total cost of 3 exercise books.

$\text{sh } 2,000 \times 3$
 $\underline{\text{sh } 6,000} \checkmark B_1$

Unit cost of a pen.

$\text{sh } 2,000 \div 2$

$\underline{\text{sh } 1,000} \checkmark B_1$

Total cost of 5 pens.

$\text{sh } 1,000 \times 5$

$\underline{\text{sh } 5,000} \checkmark B_1$

Amount of money the teacher spent on all the items.

$$\begin{array}{r} 1 \\ \text{sh } 40,000 \\ \text{sh } 6,000 \\ + \text{sh } 5,000 \\ \hline \text{sh } 51,000 \end{array}$$

$\checkmark B_1$

10

23. (a) Solve the inequality: $8 - 3t \geq 23$

(03 marks)

$$\begin{aligned}
 8 - 3t &\geq 23 \\
 8 - 8 - 3t &\geq 23 - 8 \quad \checkmark B_1 \\
 -3t &\geq 15 \\
 \frac{-3t}{-3} &\leq \frac{15}{-3} \quad \checkmark B_1 \\
 t &\leq -5 \quad \checkmark B_1
 \end{aligned}$$

(b) Write the solution set for the inequality: $-2 < x < 2$ (01 mark)

$$x = \{-1, 0, +1\} \quad \checkmark B_1$$

Accept:

$$x = \{-1, 0, 1\} \quad \checkmark B_1$$

24. On a school sports day, there were 800 guests. All the guests washed hands from a 20-litre water tank before they entered the school. On average, every guest used 400 millilitres of water. Calculate the total number of full 20-litre tanks of water the guests used. (04 marks)

Water used by 800 guests in millilitres.

$$\begin{aligned}
 (800 \times 400) \text{ millilitres} \\
 320,000 \text{ millilitres} \quad \checkmark B_1
 \end{aligned}$$

Capacity of each 20-litre tank in millilitres.

$$\begin{aligned}
 1 \text{ litre} &= 1,000 \text{ millilitres} \\
 20 \text{ litres} &= (1,000 \times 20) \text{ millilitres} \quad \checkmark B_1 \\
 20 \text{ litres} &= 20,000 \text{ millilitres}
 \end{aligned}$$

Number of tanks used.

$$\begin{aligned}
 \frac{320,000}{20,000} &= 16 \text{ tanks} \quad \checkmark B_1
 \end{aligned}$$

Accept:

Water used by 800 guests in litres.

$$\left(\frac{800 \times 400}{1000} \right) \text{ litres} \quad \checkmark B_1$$

$$320 \text{ litres} \quad \checkmark B_1$$

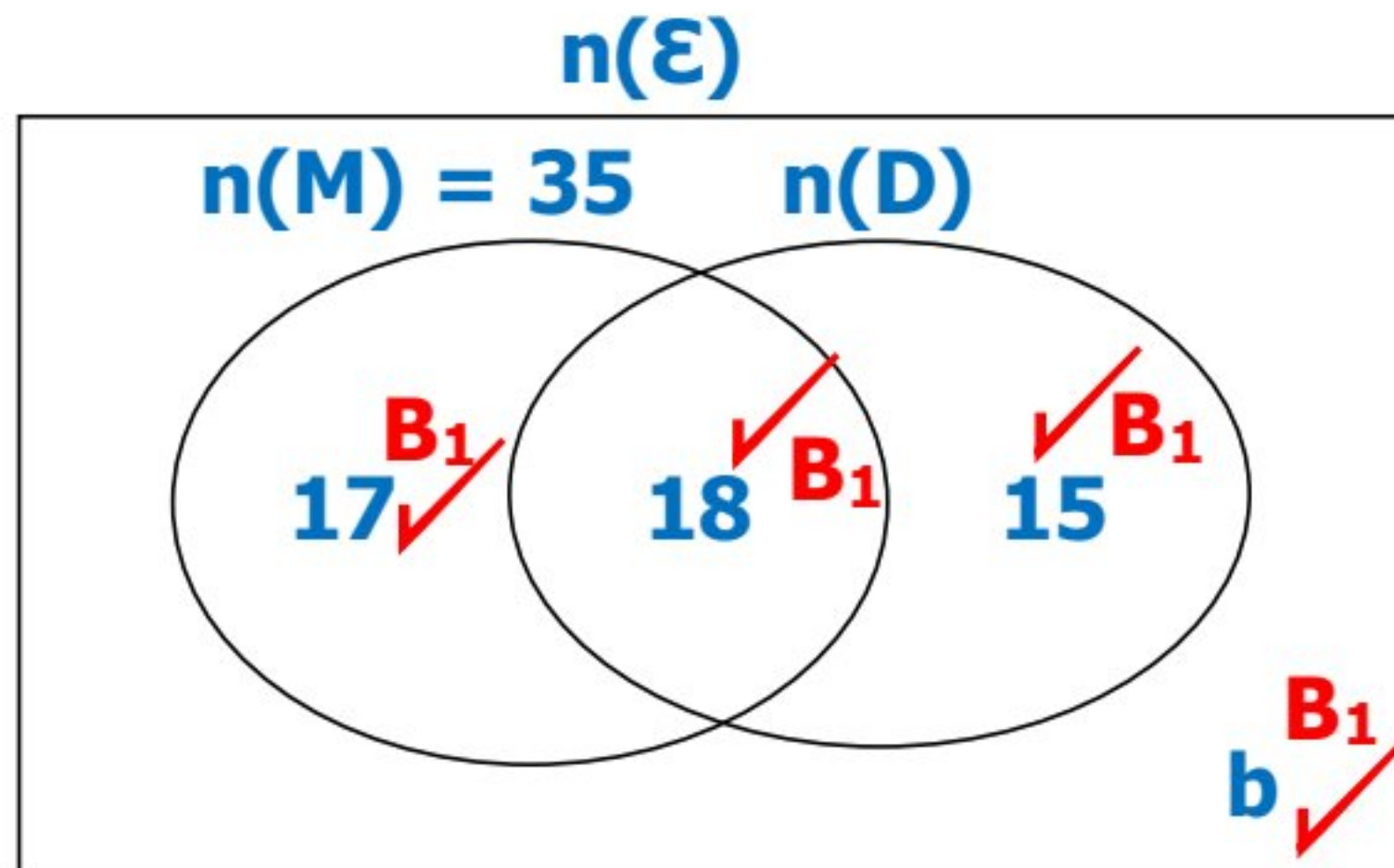
Number of tanks used.

$$\begin{aligned}
 \frac{320}{20} &= 16 \text{ tanks} \quad \checkmark B_1
 \end{aligned}$$

16 tanks of 20 litres were used by the guests. ✓ B₁

- 25.** In a class, some pupils like either music (M) or debating (D). 35 pupils like music and 15 pupils like debating only. 17 pupils like music but do not like debating. b pupils neither like music nor debating. The total number of pupils who do not like music is 28.

(a) Represent the given information on a Venn diagram. (04 marks)



$$n(M \cap D) = 35 - 17$$

$$n(M \cap D) = \underline{18} \quad \checkmark B_1$$

(b) Calculate the total number of pupils in the class. (02 marks)

$$b + 15 = 28$$

$$b + 15 - 15 = 28 - 15$$

$$b = \underline{13} \quad \checkmark B_1$$

$$n(E) = (17 + 18) + (15 + 13) \quad \checkmark B_1$$

$$n(E) = 35 + 28$$

$$n(E) = \underline{63} \quad \checkmark B_1$$

Accept:

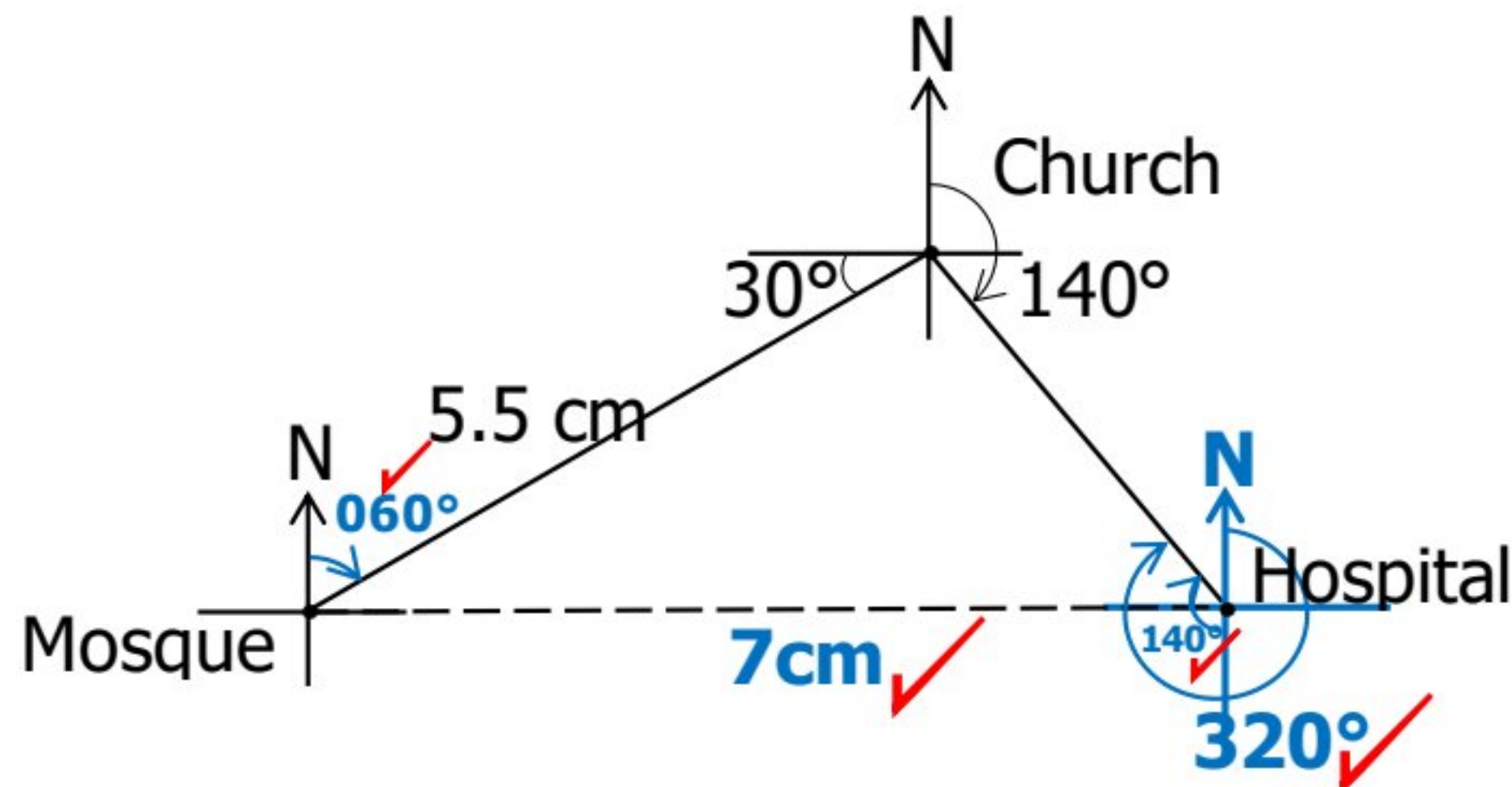
$$n(E) = n(M) + n(M)'$$

$$(35 + 28) \text{ pupils} \quad \checkmark B_1$$

$$\underline{63 \text{ Pupils}} \quad \checkmark B_1$$

- 26.** The figure below is an accurate drawing of the positions of the three buildings in a trading centre. A scale of 1 cm to represent 50 metres was used.

Study and use the figure to answer the questions that follow.



- (a) State the bearing of;

- (i) the church from the mosque. (01 mark)

The bearing of the church from the mosque is 060°. B₁ ✓

- (ii) the church from the hospital. (01 mark)

180° + 140° ✓
320°

The bearing of the church from the hospital is 320°. B₁ ✓

- (b) Find in metres, the shortest distance from the hospital to the mosque. (02 marks)

1 cm represents 50 metres
7 cm represents (50 × 7) metres ✓ B₁
7 cm represents 350 metres

The shortest distance from the hospital to the mosque is 350 metres. B₁ ✓

27. A businesswoman paid sh 800,000 for ten goats. She sold six of the goats at sh 110,000 each. Calculate the price at which she should sell each of the remaining goats in order to make a profit of 25%.

Buying price of ten goats.

sh 800,000 ✓

Profit

$$\frac{25}{100} \times \text{sh } 800,000$$

sh 200,000 ✓ **B₁**

Selling price of 10 goats.

$$\text{SP} = \text{BP} + \text{Profit}$$

sh 800,000

+ sh 200,000

sh 1,000,000 ✓ **B₁**

Selling price of 6 goats. (06 marks)

$$\text{sh } 110,000 \times 6$$

sh 660,000 ✓ **B₁**

Selling price of the four remaining goats.

$$\text{sh } 1,000,000 - \text{sh } 660,000$$

sh 340,000 ✓ **B₁**

Selling price of each of the remaining four goats.

$$\text{sh } 340,000 \div 4$$

sh 85,000

She should sell each of the remaining goats at sh 85,000. ✓ **B₁**

28. A motorist travelled from town M to town K at a speed of 75km/h for 2 hours. The motorist stopped to have lunch at town K for one hour and then continued to town L for another 3 hours. The average speed of the motorist for the whole journey was 55km/h. Calculate the distance from town K to town L. (05 marks)

Town M



Distance from;

(I) town M to town K.

$$D = S \times T$$

$$\frac{75\text{km}}{1\text{h}} \times 2\text{h}$$

D = 150km ✓ **A₁**

(II) town M to town L.

$$D = \text{Av Speed} \times \text{T.T.T}$$

$$\frac{55\text{km}}{1\text{h}} \times (2+1+3)\text{h}$$

$$\frac{55\text{km}}{1\text{h}} \times 6\text{h}$$

D = 330km ✓ **A₁**

(III) town K to town L.

$$\begin{array}{r} 213 \\ 330 \end{array}$$

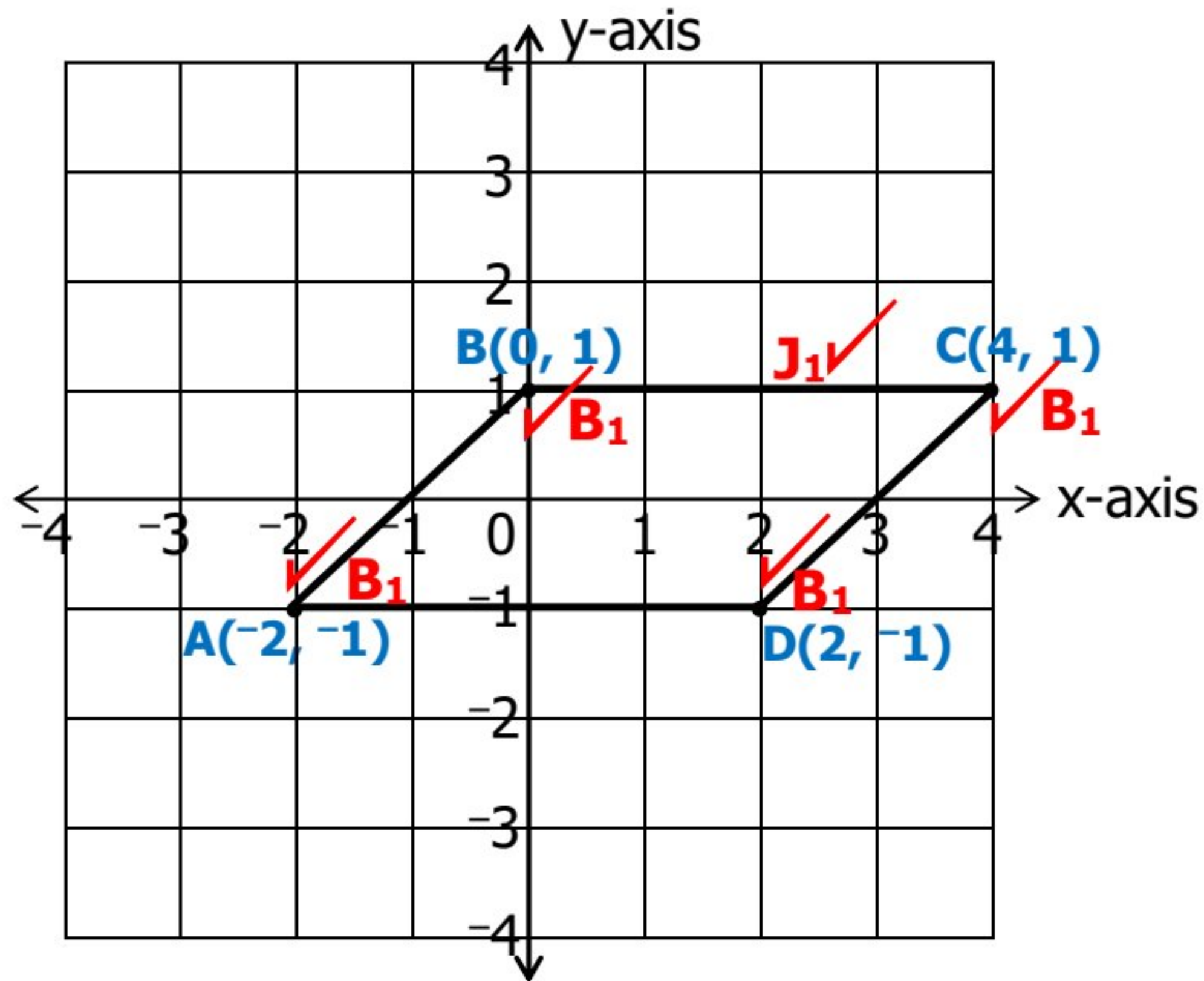
330km

- 150km

180km ✓ **B₁**

- 29.** The points A $(-2, -1)$, B $(0, 1)$ and C $(4, 1)$ are three vertices of a parallelogram ABCD.

- (a) Plot the points A, B and C on the grid below. (03 marks)



- (b) Locate and state the coordinates of vertex D of the parallelogram. (01 mark)

Done on the grid.

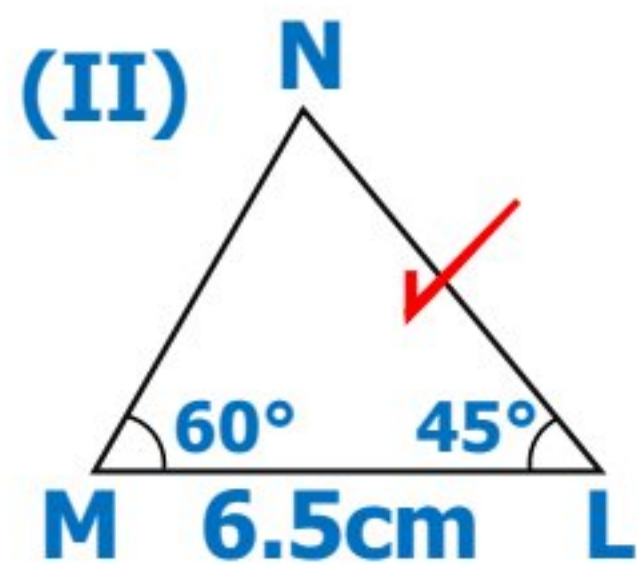
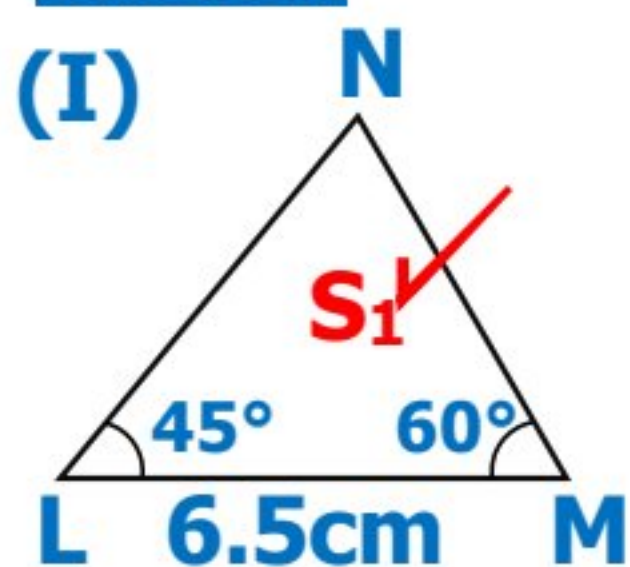
- (c) Join the points A, B, C and D to form the parallelogram. (01 mark)

Done on the grid.

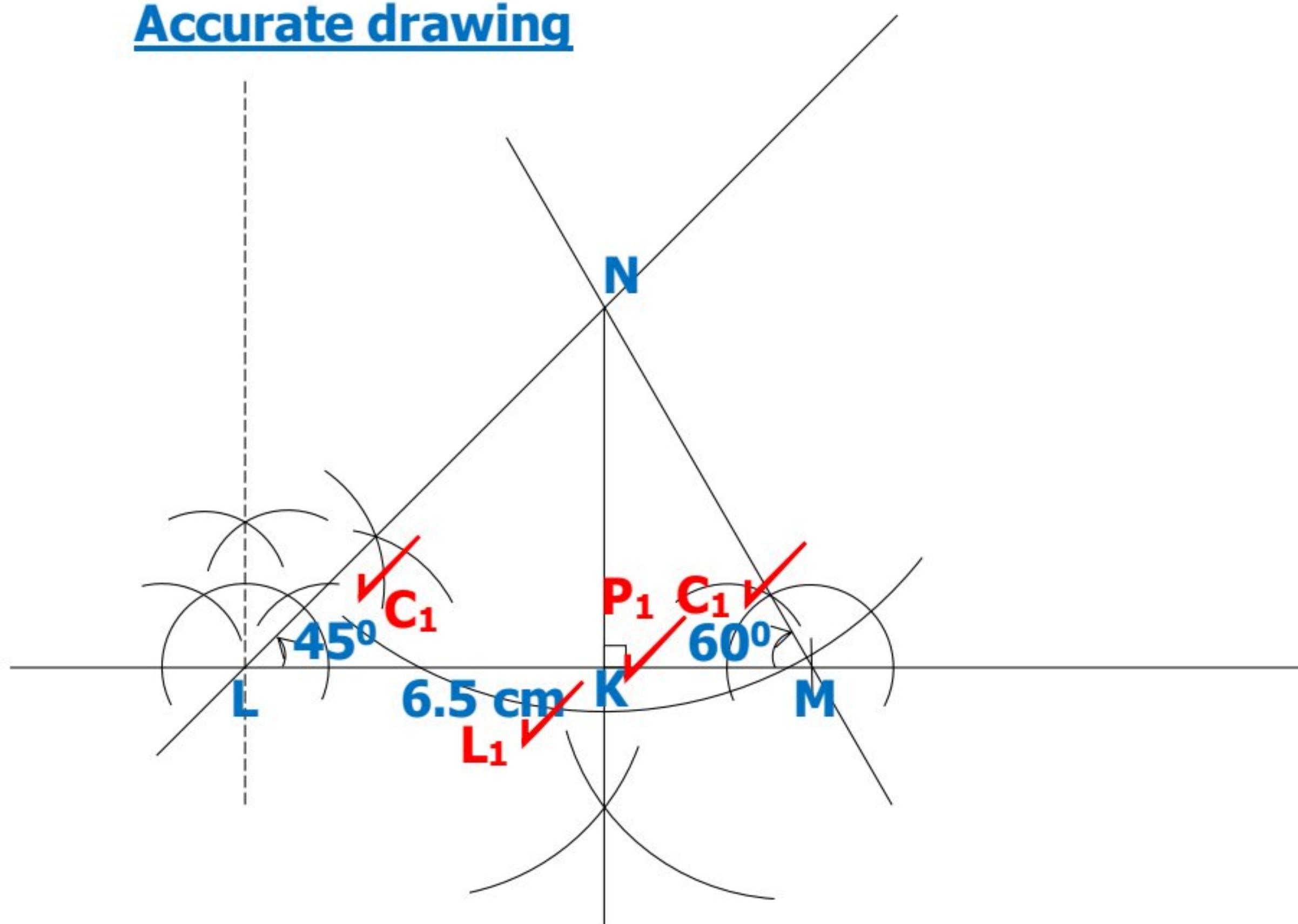
30. Using a ruler and a pair of compasses only;

- (a) Construct triangle LMN in which line LM = 6.5 cm, angle NLM = 45° and angle LMN = 60° . (04 marks)

Sketch



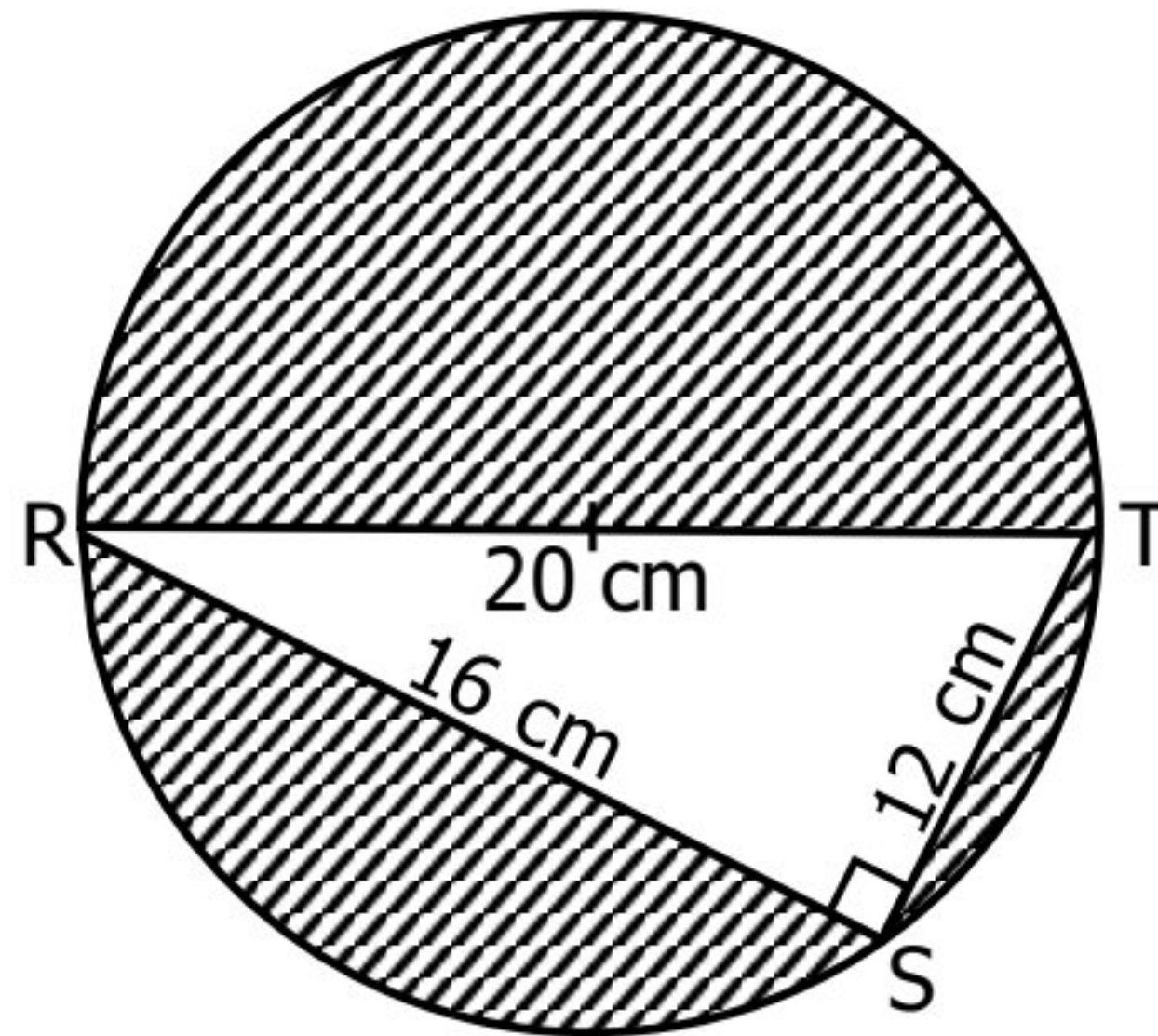
Accurate drawing



- (b) construct a perpendicular line from N to meet line LM at K. (01 mark)

10

- 31.** A right-angled triangle RST was cut out of a circular paper. The side of the triangle $RS = 16\text{ cm}$, $ST = 12\text{ cm}$ and $RT = 20\text{ cm}$. The side RT of the triangle was cut through the centre of the circular paper. Study and use the diagram to answer the question.



Find the area of the paper that remained after cutting out the rectangle. (Use $\pi = 3.14$) (06 marks)

Area of the;

(I) circular paper.

$$A = \pi r^2$$

$$\frac{314}{100} \times \frac{20\text{cm}}{2} \times \frac{20\text{cm}}{2} \quad \checkmark M_1$$

$$A = 314\text{cm}^2 \quad \checkmark A_1$$

(II) triangle

$$A = \frac{b \times h}{2}$$

$$\frac{16\text{cm} \times 12\text{cm}}{2} \quad \checkmark M_1 \quad \left| \begin{array}{r} 3 \\ 16 \\ \times 6 \\ \hline 96 \end{array} \right. \quad \checkmark$$

$$D = 96\text{cm}^2 \quad \checkmark A_1$$

(III) of the paper that remained after cutting out the triangle.

$$\begin{array}{r} 21014 \\ 314\text{cm}^2 \\ - 96\text{cm}^2 \\ \hline 218\text{cm}^2 \quad \checkmark B_1 \end{array}$$

- 32.** A man gave part of his land to his three children; Janat, Adam and Moses. Janat got $\frac{3}{8}$, Adam got $\frac{2}{5}$ and Moses got $\frac{1}{3}$ of the land. Determine which one of the children got the largest share of the land. (05 marks)

2	8	5	3
2	4	5	3
2	2	5	3
3	1	5	3
5	1	5	1
	1	1	1

$$\text{LCM} = (2 \times 2) \times (2 \times 3) \times 5$$

$$\text{LCM} = 4 \times (6 \times 5)$$

$$\text{LCM} = 4 \times 30$$

$$\text{LCM} = \underline{120} \quad \checkmark \quad \text{B}_1$$

Janat's share.

$$\frac{3}{8} \times \overset{15}{\cancel{120}} = \underline{45} \quad \checkmark \quad \text{B}_1$$

Adam's share.

$$\frac{2}{5} \times \overset{24}{\cancel{120}} = \underline{48} \quad \checkmark \quad \text{B}_1$$

Moses' share.

$$\frac{1}{3} \times \overset{40}{\cancel{120}} = \underline{40} \quad \checkmark \quad \text{B}_1$$

Adam got the largest share of the land. $\checkmark \quad \text{B}_1$

11

