

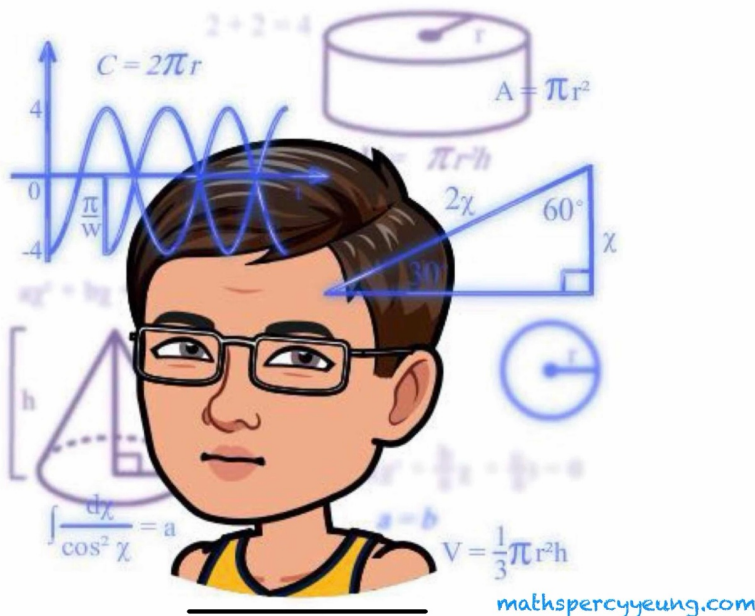
Term 2 Assessment 2024 – 2025

Grade :	G8	Name :	_____
Subject :	Mathematics	Class :	_____ ()
Paper :	I	Group No. :	_____
Date :	30 MAY 2025	Marks :	_____ / 72
Time Allowed :	1 hour 15 minutes	Parent's Signature :	_____

This paper must be answered in English

INSTRUCTIONS

- This paper consists of Section A and Section B. Section A carries 45 marks. Section B carries 27 marks.
- Answer all the questions.
- Use of an HKEAA approved calculator is allowed.



Teacher's Use Only		
Question No.	Max. marks	Marks
Section A		
1	6	
2	3	
3	6	
4	4	
5	3	
6	4	
7	3	
8	3	
9	6	
10	7	
Sub-total	45	
Section B		
11	7	
12	10	
13	10	
Sub-total	27	

1. (a) Factorize the following,

- (2 marks)

- (2 marks)

- (2 marks)

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.This image shows a single sheet of white paper with ten horizontal dashed lines, typical of primary-ruled notebook paper. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

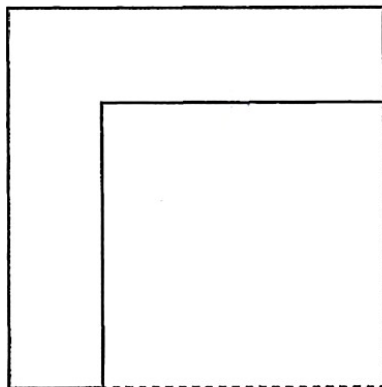


Figure 1

This image shows a full page of a handwriting practice worksheet. It features multiple sets of horizontal dashed lines spaced evenly down the page, providing a guide for letter height and placement. The background is plain white, and there are no other markings or text present.

4. It is given that $A(3, -6)$ and $B(6, -1.5)$ are two points on the line $px - 2y = q$.

Find p and q .

(4 marks)

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

5. In Figure 2, ABC is a straight line. $\angle ABF = 60^\circ$ and $\angle BCD = 27^\circ$. $BF \parallel ED$ and $CD \parallel EF$. Find x . (3 marks)

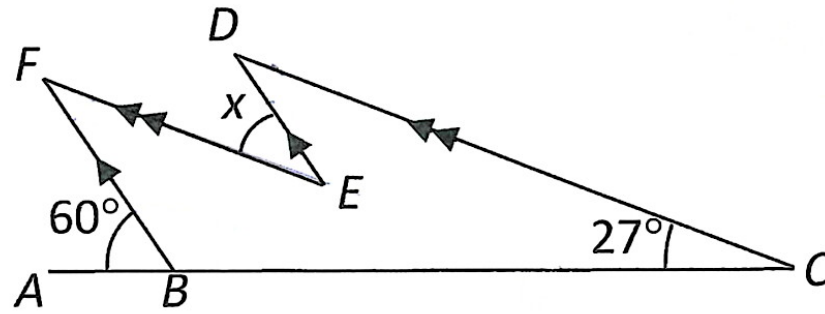


Figure 2

7. In Figure 4, 2 circles touch each other at E , where DEC is a straight line. C and D are the centres of two circles. Line segment XY touches the two circles at A and B respectively. It is given that $AD \perp XY$, $BC \perp XY$, $AD = 4$ cm and $BC = 9$ cm. Find the length of AB .

(3 marks)

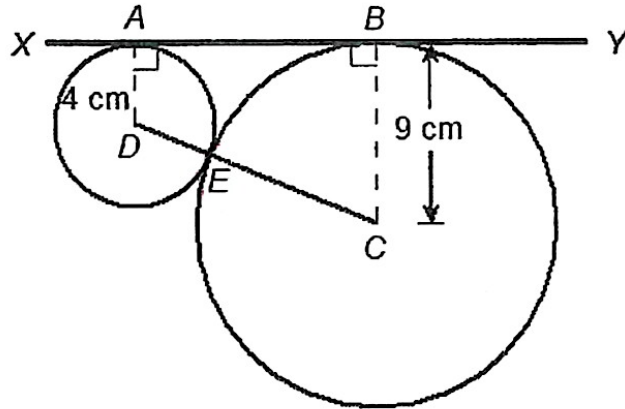
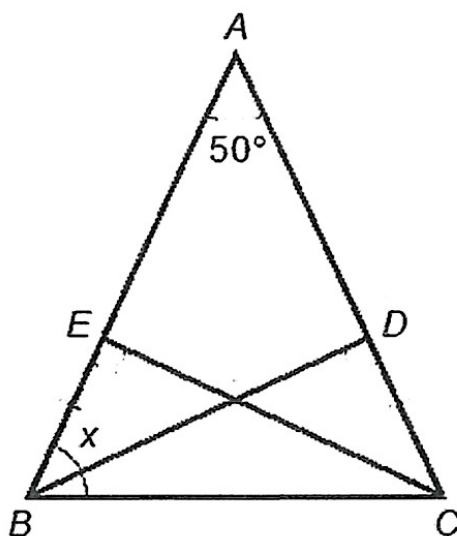


Figure 4

[illegible]



(a) Prove that $\triangle BCE \cong \triangle CBD$. (3 marks)

(b) Find x . (3 marks)

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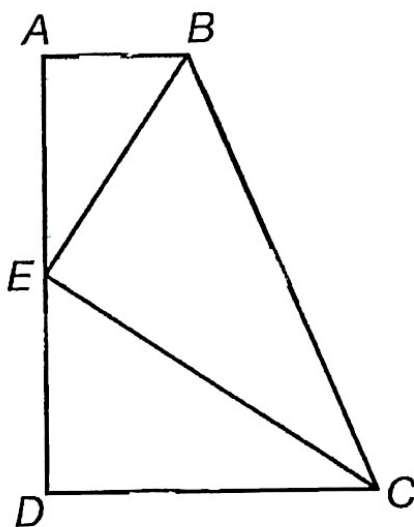


Figure 7

- (a) Prove that $\triangle ABE \sim \triangle DEC$. (3 marks)
- (b) It is given that $AB = 5$ cm, $AE = x$ cm, $AD = 17$ cm and $CD = k$ cm.
- (i) Prove that $x^2 - 17x + 5k = 0$. (2 marks)
- (ii) If $x = 7$, find the value of k . (2 marks)

[illegible]

(c) If the selling price of a television is \$5 625 and the percentage profit is 20%, is the cost of the television greater than \$4 800? Explain your answer. (2 marks)

12. A survey has recorded the monthly salary \$ x of some citizens. The record is shown in the following tables. The percentages in Table 1 and Table 2 are correct to 1 decimal place.

The monthly salary of the male citizens

x	Frequency	Percentage (%)
0	45	15
$0 < x \leq 6000$	77	25.7
$6000 < x \leq 12\ 000$	62	20.7
$12\ 000 < x \leq 18\ 000$	42	14
$18\ 000 < x \leq 24\ 000$	29	9.7
$24\ 000 < x \leq 30\ 000$	28	9.3
$x > 30\ 000$	17	5.7
Total frequency =	300	

Table 1

The monthly salary of the female citizens

x	Frequency	Percentage (%)
0	85	24.3
$0 < x \leq 6000$	103	29.4
$6000 < x \leq 12\ 000$	61	
$12\ 000 < x \leq 18\ 000$	37	10.6
$18\ 000 < x \leq 24\ 000$	26	7.4
$24\ 000 < x \leq 30\ 000$	20	5.7
$x > 30\ 000$	18	5.1
Total frequency =	350	

Table 2

- (a) Explain why the sum of the percentages in Table 1 is 100.1 instead of 100. (1 mark)

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- (b) A number in Table 2 is covered. What should this number be? (1 mark)

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- (c) The cumulative frequency polygon of the distribution of x ($x \leq 30\ 000$) for male citizens is drawn in Figure 8 below.

The monthly salary of the citizens

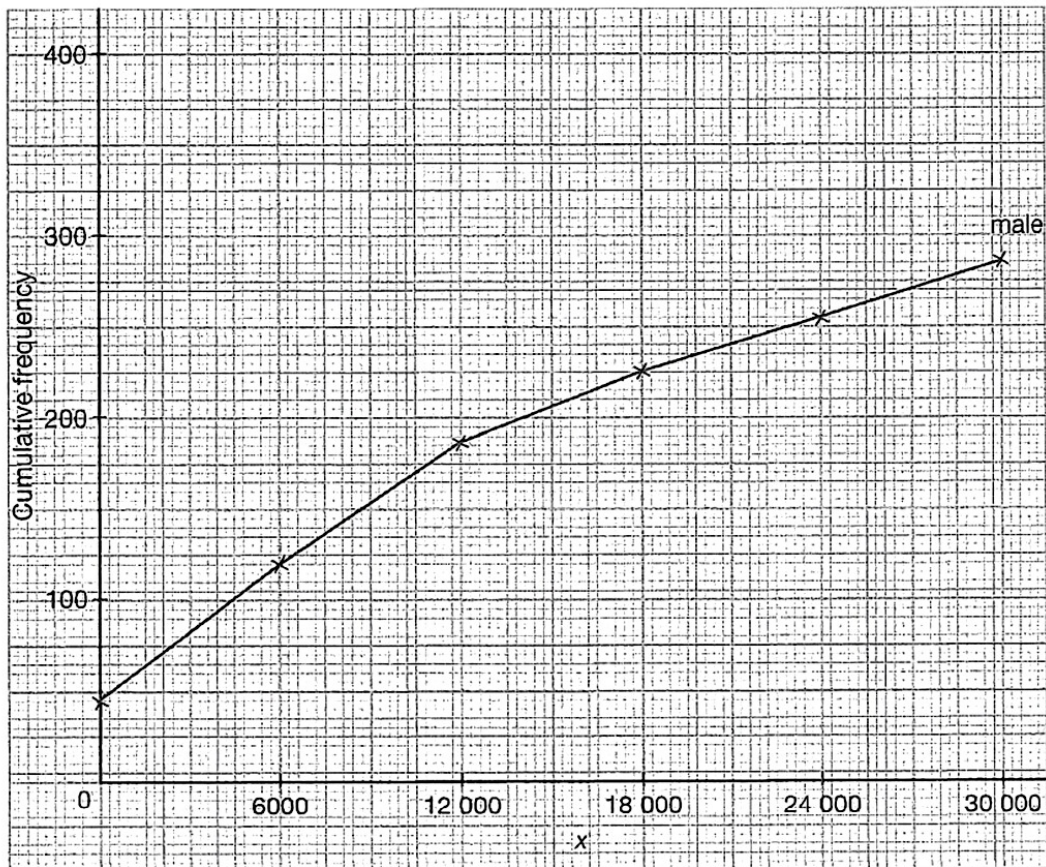


Figure 8

- (i) Construct a cumulative frequency table of the distribution of x ($x \leq 30\ 000$) for female citizens. (2 marks)

x less than	Cumulative frequency

- (ii) On the same graph above, draw the cumulative frequency polygon of the distribution in (i). (1 mark)

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- _____
- _____
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- This image shows a full page of white paper with horizontal dashed lines, typical of primary-ruled notebook paper. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

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- A regular hexagon $ABCDEF$ is shown with side length 4 cm . A shaded sector is formed by the center of the hexagon and vertices E and D . The sector is shaded gray.

Figure 9(a)

This image shows a full page of handwriting practice paper. It features multiple sets of horizontal dashed lines spaced evenly down the page, providing a guide for letter height and placement. The background is white, and there are no other markings or text present.

- (b) A circular arc with centre D and radius 4 cm is drawn from C to E , as shown. A second arc with centre A and radius 4 cm is drawn from B to F , as shown in Figure 9(b). These arcs touch each other at the centre of the hexagon. Line segments BF and CE are also drawn. Find the total area of the shaded regions. (4 marks)

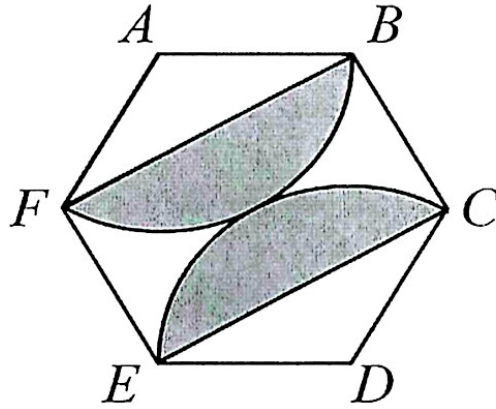


Figure 9(b)

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins or other markings on the paper.

- (c) In Figure 9(c), along each edge of the hexagon, a semi-circle with 4 cm diameter is drawn. Find the total area of the shaded regions. (3 marks)

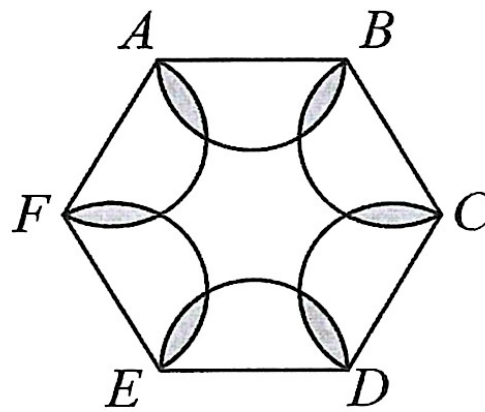


Figure 9(c)