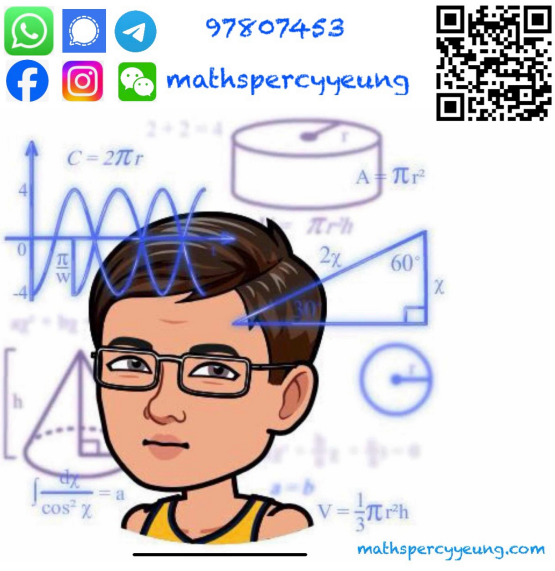
Term 1 Assessment 2025 – 2026
Revision Exercise (Set 2)

Grade :	G9	Name :	
Subject :	Mathematics	Class :	( )
Paper :	I	Group No. :	
Date :		Marks :	/ 67
Time Allowed :	1 hour 15 minutes		

This paper must be answered in English

INSTRUCTIONS

1. This paper consists of Section A and Section B. Section A carries 42 marks. Section B carries 25 marks.
2. Answer all the questions.
3. Use of an HKEAA approved calculator is allowed.
4. The diagrams in this paper are not necessarily drawn
5. Write your mathematical expressions, answers and st provided. There is NO need to show the rough work.
6. Unless otherwise specified, numerical answers shoul significant figures.
7. Do your rough work in the rough worksheet provided.



Section A (42 marks)

1. Factorize the following polynomials.

(a) $x^2 - 5x - 24$ (1 mark)

(b) $-3a^2 + 6a + 9$ (2 marks)

(c) $4pq - 15 - 20q + 3p$ (2 marks)

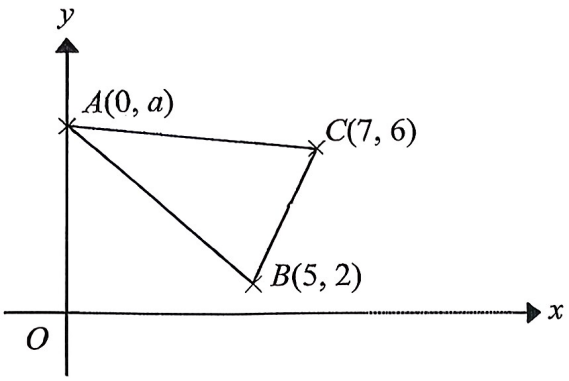
2. (a) Factorize

(i) $3x^2 - 2x - 5$. (1 mark)

(ii) $3x^2 - 2x - 5 + 6x - 10$. (2 marks)

(b) Hence, factorize $\frac{1}{6x-10} + \frac{1}{3x^2-2x-5}$. (3 marks)

3. In the figure, $A(0, a)$, $B(5, 2)$ and $C(7, 6)$ are the vertices of a triangle. It is given that A is a point on the y-axis and $AB = AC$.



(a) Find the coordinates of A. (3 marks)

(b) Let M be the mid-point of BC. Prove that the height of ΔABC with BC as the base is $3\sqrt{5}$ units. (3 marks)

(c) Find the area of ΔABC. (2 marks)

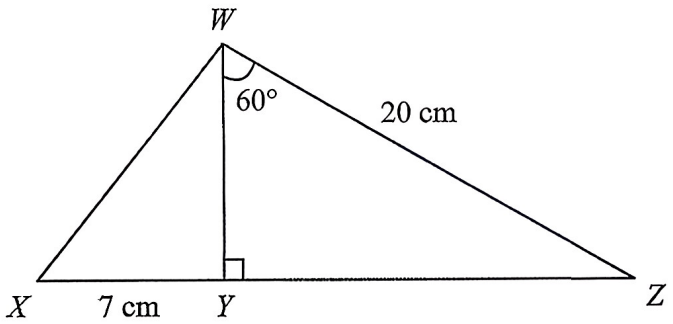
4. The number of a kind of bacteria is spreading at a constant rate of 110% per month. Let x be the number of bacteria now. Find the change of the number of bacteria in terms of x,

(a) compared to 3 months later, (2 marks)

(b) compared to 1 year before. (3 marks)

Correct your answers to 5 significant figures.

5. In the figure, given that $WZ = 20$ cm, $XY = 7$ cm, $\angle YWZ = 60°$ and $WY \perp XZ$.



(a) Find WY. (2 marks)

(b) Find $\angle WXY$. Correct your answer to the nearest degree. (2 marks)

6. The following table shows the distribution of the numbers of credit cards owned by a group of university students.

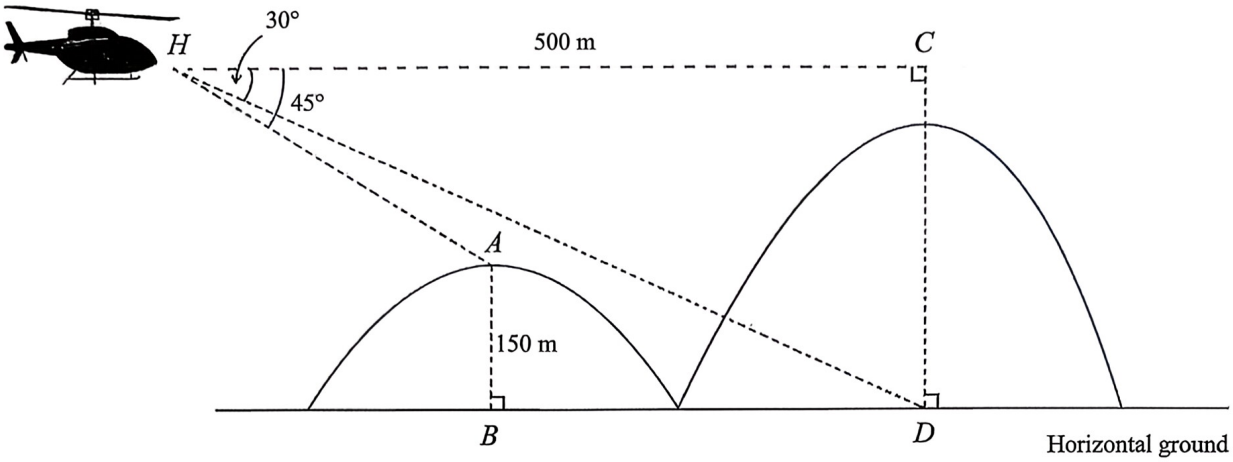
Number of credit cards	1	2	3	4	5
Number of university students	11	k	9	7	13

It is given that k is a positive integer.

(a) If the mean of the distribution is 3, find the value of k. (3 marks)

(b) If the mode of the distribution is 5, write down the greatest possible value of k. (1 mark)

7. The figure shows a helicopter searching for a missing man in Ma On Shan Country Park. Given that $AB = 150$ m, $CH = 500$ m, $\angle AHC = 45°$ and $\angle DHC = 30°$.



(a) Find the vertical distance between the helicopter and the horizontal ground. (2 marks)

(b) Find the distance between A and H. (3 marks)

Leave your answers in surd form.

8. The number of customers played in a game center in August was 972. In September, the number of customers increased by 25%. However, it decreased by 60% in October.

(a) Find the number of customers in October. (2 marks)

(b) The manager claims that the number of customers has decreased by 35% from August to October. Do you agree? Explain your answer. (3 marks)

Section B (25 marks)

9. The back-to-back stem-and-leaf diagram below shows the test scores got by two classes of the students in a Mathematics Assessment.

The scores of a Mathematics Assessment of Class A and Class B

Class A							Class B							
				Leaf (1)			Stem (10)	Leaf (1)						
		4	4	3	1	0	6	0	1	4	4	4	7	9	9
		5	5	4	2	2	7	5	8	8	8	9	9		
6	6	2	1	1	1	0	8	7	8						
				3	3	2	9	7	8	9	9				

(a) Find the mean, median of each class. (4 marks)

(b) Hence, determine which class performed better. Explain your answer. (3 marks)

10. Samuel bought a new car at a value of $\$P$ in 2020 and its value depreciated at a constant rate of $r\%$ per year.

(a) (i) Express the depreciation in the value of the car from 2020 to 2021 in terms of P and r. (1 mark)

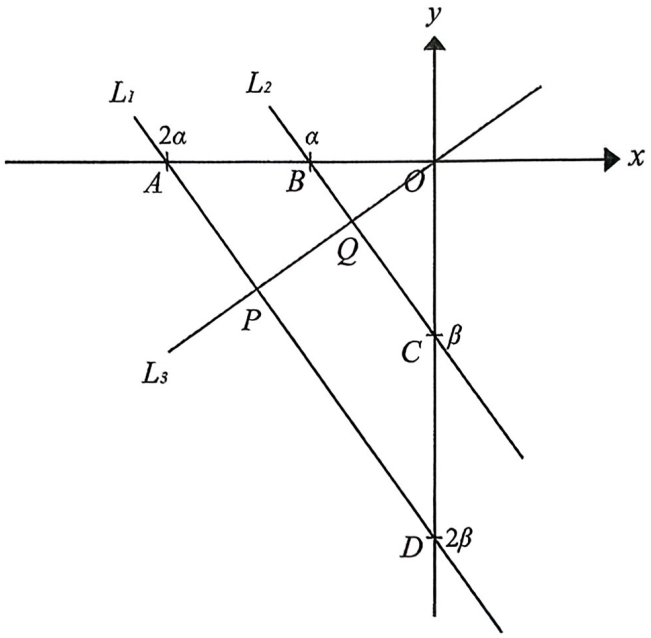
(ii) Show that the depreciation in the value of the car from 2020 to 2022 was $\$(Pr\%(2-r\%))$. (2 marks)

(b) The depreciations in the value of the car from 2020 to 2021 and that from 2020 to 2022 were \$600 000 and \$1 080 000 respectively.

(i) Find r. (3 marks)

(ii) Samuel claimed that the value of the car in 2030 will be less than one-tenth of the original value. Do you agree? Explain your answer. (3 marks)

11. On a rectangular coordinate plane, the x-intercept and y-intercept of the straight line L_1 are 2α and 2β respectively, whilst the x-intercept and y-intercept of the straight line L_2 are α and β respectively.



(a) Prove that $L_1 \,//\, L_2$. (3 marks)

(b) On the same rectangular coordinate plane, another straight line L_3 cuts L_1, L_2 and the x-axis at P, $Q(-1,-0.5)$ and the origin O respectively. Let $\alpha = -1.25$ and $\beta = -2.5$.

(i) Prove that $BQ : QC = AP : PD$. (Hint: Consider using similar triangles.) (3 marks)

(ii) Find $AP : PD$. (3 marks)

END OF PAPER