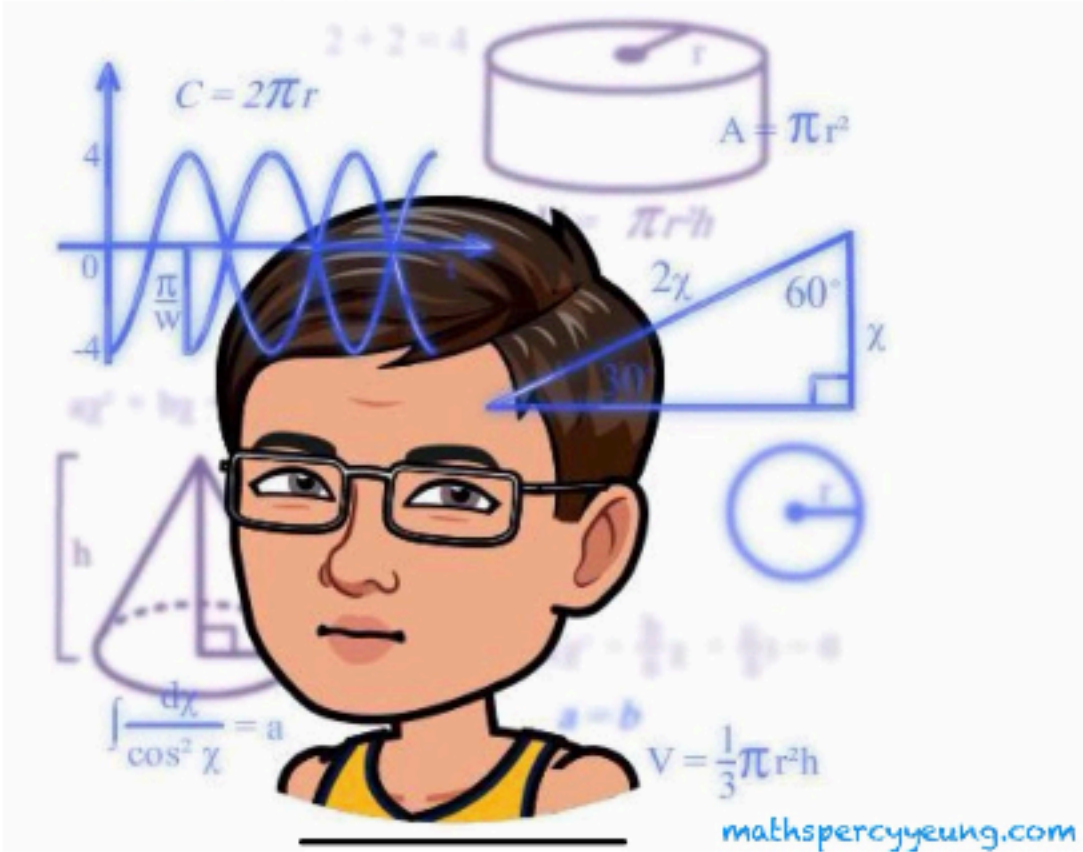


Term 2 Assessment 2025 – 2026



97807453
mathspercyyeung



Grade :
G9

Subject :
Mathematics

Paper :
I

Date :
- 1 JUN 2026

Time Allowed :
1 hour 15 minutes

Name :

Class :

Group No. :

Marks :
/ 70

Parent's Signature :

This paper must be answered in English

INSTRUCTIONS

- 1. This paper consists of Section A and Section B. Section A carries 48 marks. Section B carries 22 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 to scale.
- 5. Write your mathematical expressions, answers and statements/conclusions in the spaces provided. There is NO need to show the rough work.
- 6. Unless otherwise specified, numerical answers should be either exact or correct to 3 significant figures.
- 7. Do your rough work in the rough worksheet provided.

Teacher's Use Only		
Question No.	Max. marks	Marks
Section A		
1	4	
2	4	
3	6	
4	4	
5	5	
6	4	
7	4	
8	6	
9	6	
10	5	
Sub-total	48	
Section B		
11	8	
12	7	
13	7	
Sub-total	22	

Section A (48 marks)

1. (a) Factorize $2x^2 + 5xy - 12y^2$. (1 mark)
- (b) Hence, or otherwise, factorize $2z^2 + 5z(z + 4) - 12(z + 4)^2$. (3 marks)

[illegible]

2. (a) Solve the inequality $\frac{2x}{9} < 4 - \frac{3x-2}{6}$ and represent the solutions graphically. (3 marks)
- (b) Find the number of positive integers satisfying the inequality. (1 mark)

[illegible]

3. Simplify the following expressions and express your answer with positive indices.

(a) $\frac{27x^2y^5}{(-3x^{-1}y^2)^4}$ (3 marks)

(b) $\frac{(9a^{-1}b^2)^0 \times (4ab^{-3})^{-2}}{(-a^{-4}b^2)^{-3}}$ (3 marks)

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4. Marco deposited \$50 000 in a bank at the beginning of 2026. The interest rate is 3% p.a. compounded monthly. He claims that he can earn at least \$3 000 of interest at the end of 2027. Do you agree? Explain your answer. (4 marks)

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5. The hourly salaries (in \$) of 10 workers in a company are as follows.

a	b	50	72	52	78	50	62	72	54
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The mean and mode of hourly salaries of 10 workers are \$58 and \$72 respectively.

- (a) Find the median of the hourly salaries of 10 workers. (3 marks)
- (b) The company's manager has decided to cut the hourly salaries of these workers by 10% because profits have decreased. Find the new mean, mode and median of hourly salaries of these workers after this change. (2 marks)

This image shows a full page of primary-ruled paper. It features multiple sets of horizontal lines designed to guide young learners' handwriting. Each set consists of three lines: two solid black lines forming the outer boundaries and a dashed black line in the middle. A thin red line runs horizontally between each pair of solid black lines, serving as a visual cue for letter height. The entire page is filled with these repeating patterns from top to bottom, providing ample space for practice. There are no margins, text, or other markings on the paper.

6. There are 2 questions in a True or False section of a Chinese History test. 3 marks is awarded for each correct answer, 2 marks is deducted for each wrong answer and 1 mark is deducted for each blank answer.
- (a) Given that a student answers all the questions, list all the possible outcomes of his answers in a tree diagram. (2 marks)
- (b) Given that the correct answers of the first and second question are True and False respectively. If a student cannot figure out the answers of the two questions, considering the expected mark, should the student attempt all the questions randomly or leave all the questions blank? Explain your answer. (2 marks)

[illegible]

7. Simplify $\frac{\sin(90^\circ - \theta) \tan \theta}{\tan(90^\circ - \theta)} - \frac{1}{\sin(90^\circ - \theta)}$.

(4 marks)

[illegible]

8. In Figure 1, Raymond walks 450 m from A to B in the direction $N53^\circ E$. Then, he walks 480 m from B to C in the direction $S27^\circ W$.

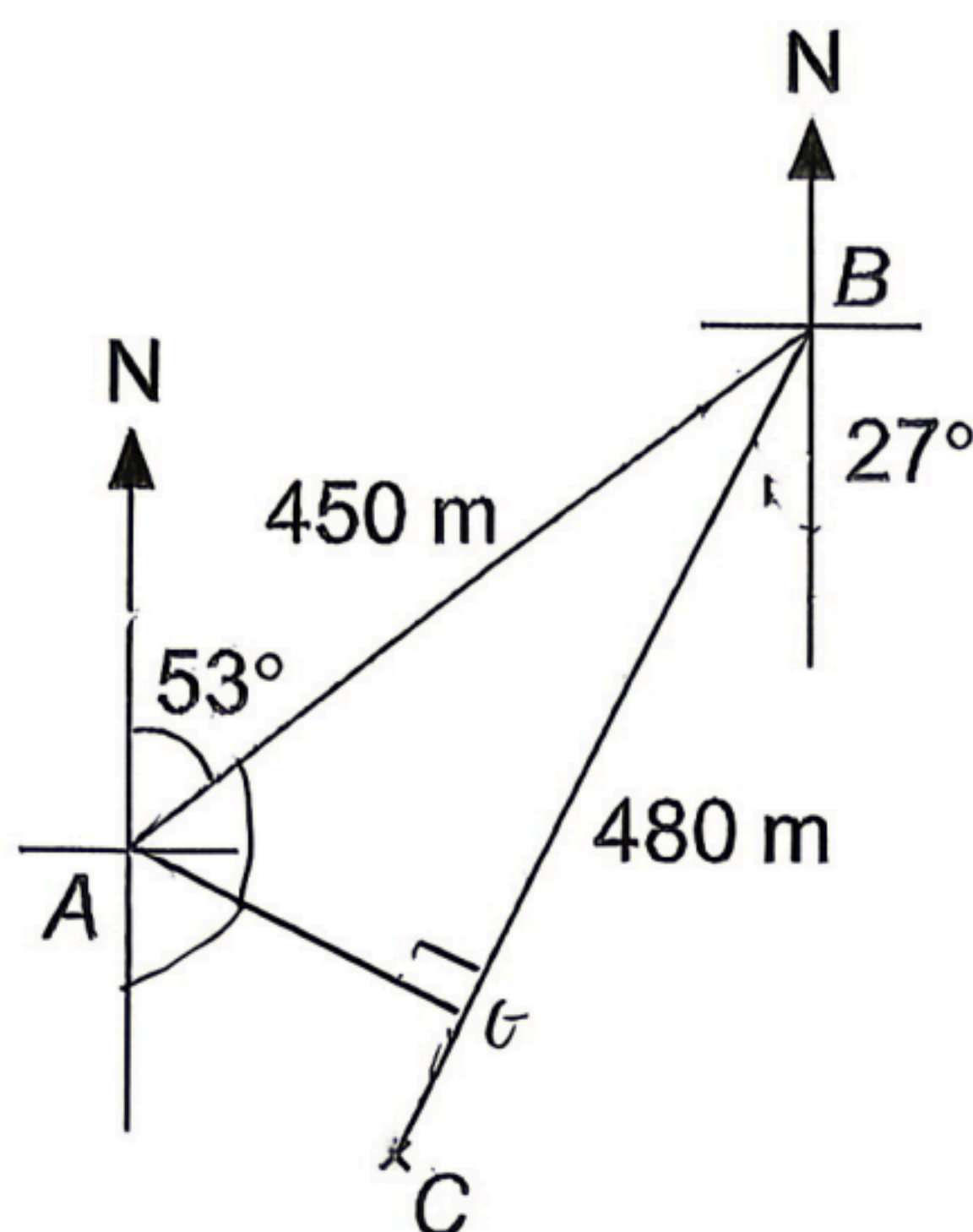


Figure 1

- (a) Find the shortest distance between point A and path BC . (3 marks)
- (b) Raymond would like to walk from C to A . Find the bearing of the direction he should walk. (3 marks)

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.



Figure 2

- (a) Find $\angle EBC$. (3 marks)
- (b) Find $\angle DEF$. (3 marks)

[illegible]

10. In Figure 3, the vertex V of a regular pyramid with a square base just lies on the curved surface of a hemisphere, and the four corners of the base lie on the circumference of the base of the hemisphere. Given that the total surface area of the hemisphere is $243\pi \text{ cm}^2$.

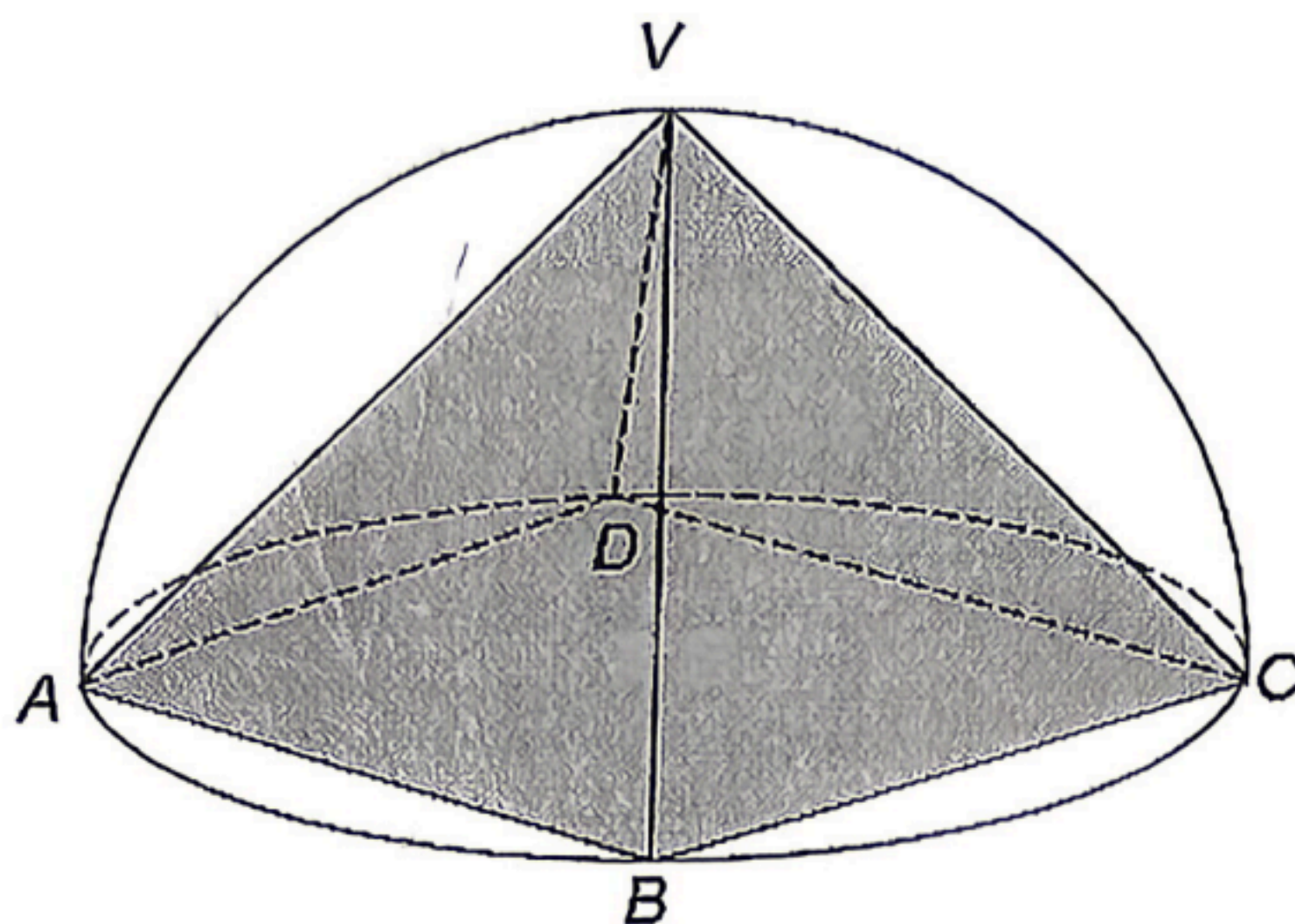


Figure 3

- (a) Find the radius of the hemisphere. (2 marks)
- (b) Find the volume of the regular pyramid. (3 marks)

[illegible]

Section B (22 marks)

11. In Figure 4, $A(1, -10)$, $B(15, 6)$ and $C(5, 16)$ are the three vertices of $\triangle ABC$. $M(7, 4)$ is the centroid of $\triangle ABC$ and D is the mid-point of BC .

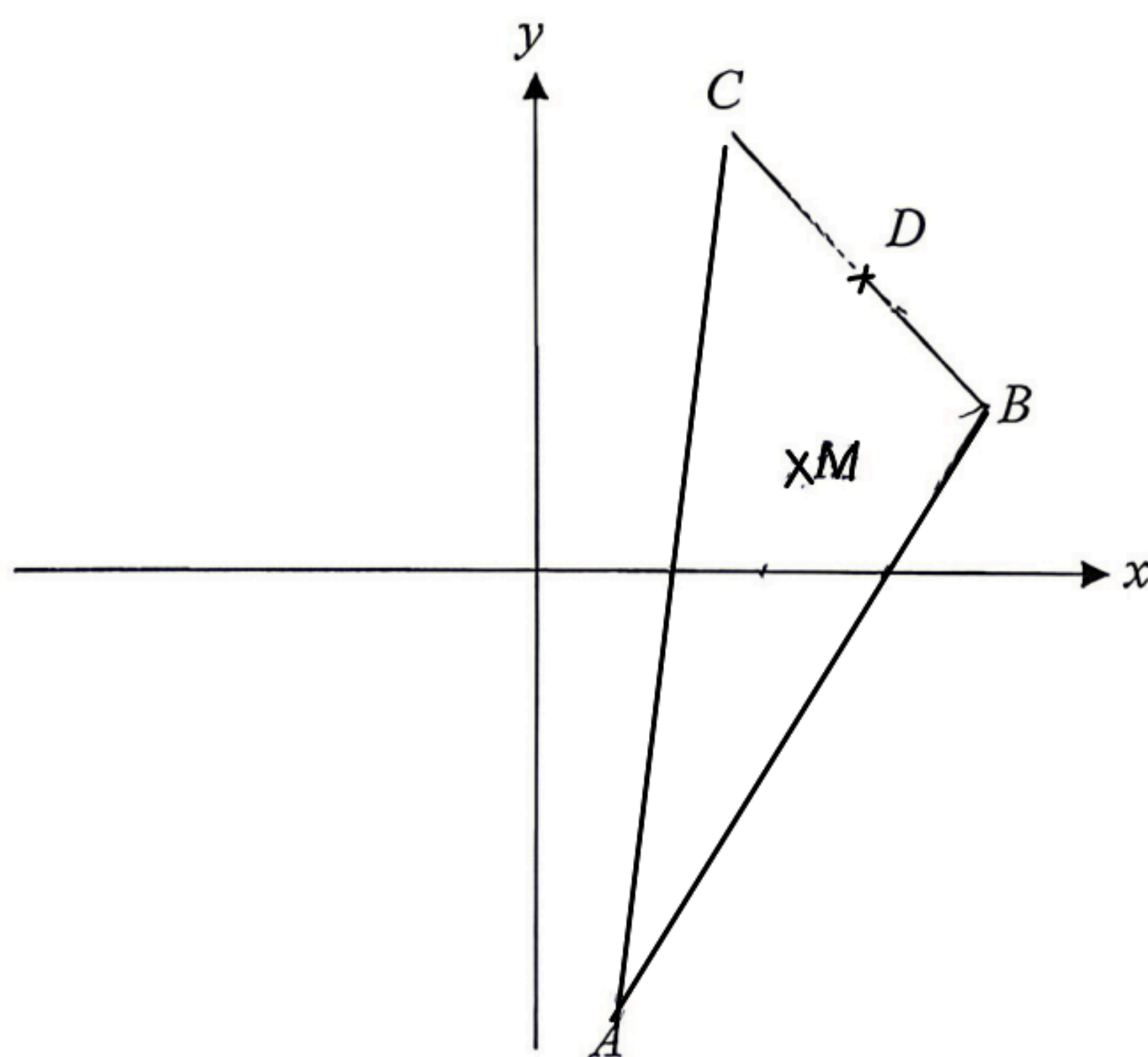


Figure 4

- (a) Show that $AM : MD = 2 : 1$. (3 marks)
- (b) Let $E(x, y)$ be a point on BC such that ME is the altitude of $\triangle MBC$. Find the coordinates of E . (3 marks)
- (c) Find the area of $\triangle MDC$. (2 marks)

[illegible]

13. In Figure 6, a right circular cone is divided into three parts by two planes parallel to its base. The ratio of curved surface area of the upper part of the cone to that of the middle part of the cone to that of the lower part of the cone is 9 : 16 : 11.

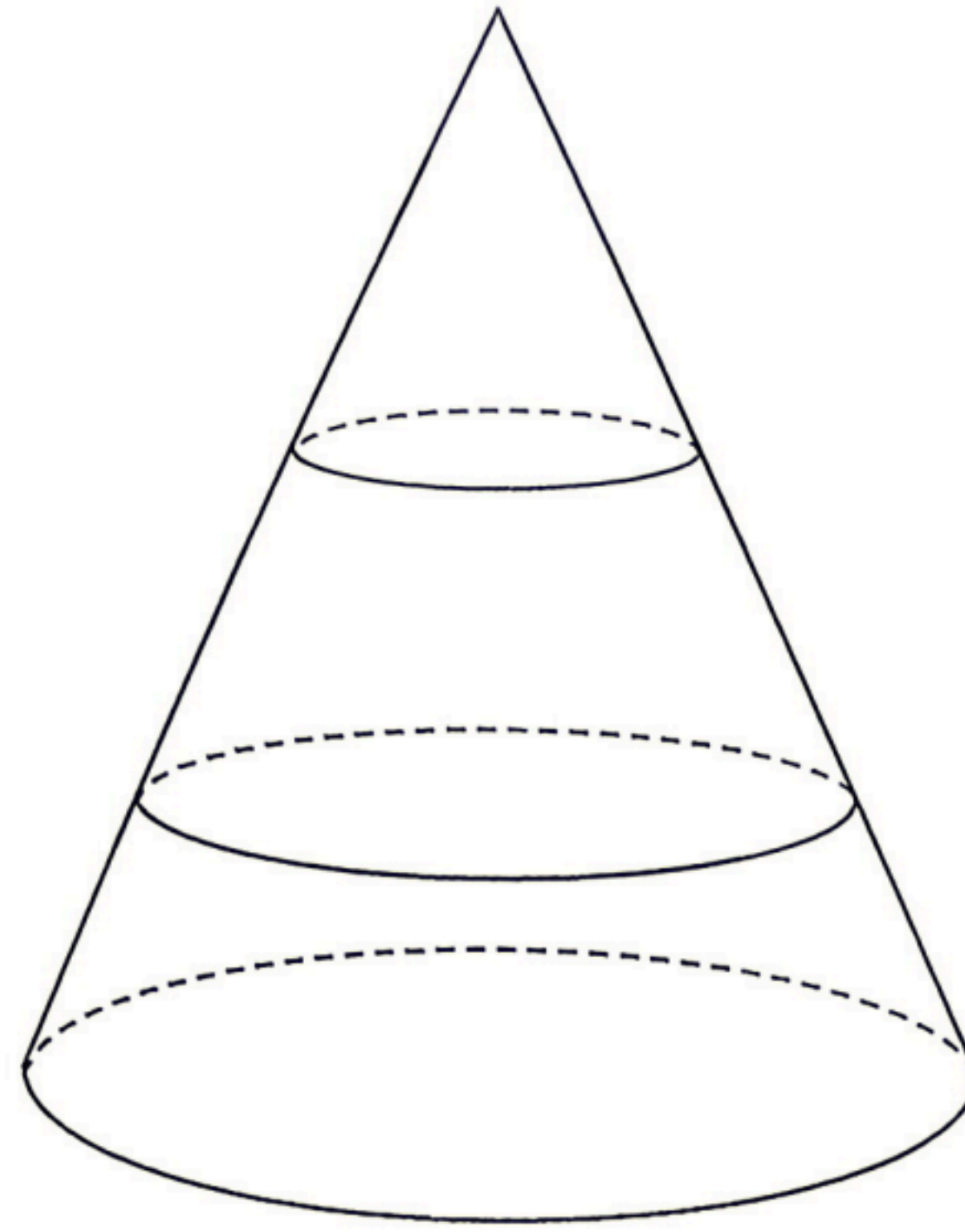


Figure 6

- (a) Find the ratio of volume of the middle part to that of the lower part. (4 marks)
- (b) If the base radius and height of the cone are 15 cm and 36 cm respectively, find the volume of the middle part in terms of π . (3 marks)

This image shows a single sheet of white paper with ten sets of horizontal dashed lines, typical of primary-ruled notebook paper. Each set consists of two parallel dashed lines, creating nine equal-sized rectangular sections across the page. The lines are evenly spaced and extend from the left edge to the right edge of the paper. There is no handwriting or other markings on the page.

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