

Final Examination (2025-2026)
Form 2 Mathematics
Question Booklet for Section A

Jun 2026

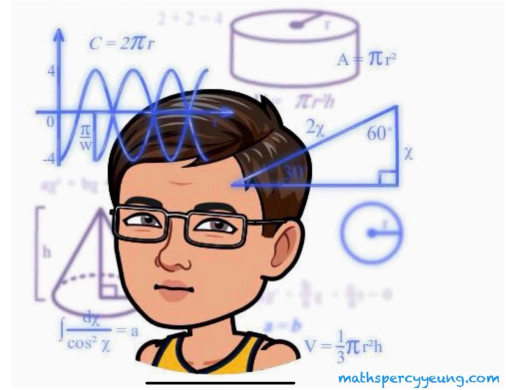
Time allowed: 2 hours

Total: 100 marks



Instructions

1. Do not turn over the paper until you are told to do so.
2. This paper consists of 4 sections, Sections A, B, C and D.
3. Attempt ALL questions in this paper (except Section D, which is optional). All answers should be written on the respective answer sheets.
4. Write down your name, class and class number on the first page of all Question-Answer Booklets.
5. Section A is a multiple-choice section. Note that you may only choose **one** answer to each question in this section. If you choose more than one answer, you will receive **no marks** for that question. All questions in this section carry equal marks and no marks will be deducted for wrong answers. You must use a pencil to mark all the answers on the MC Answer Sheet for Section A. Otherwise, no marks will be awarded.
6. In Sections B, C and D, all workings must be clearly shown. Unless otherwise specified, numerical answers should be either exact or correct to 3 significant figures.
7. The diagrams in this paper are not necessarily drawn to scale.



Section A: Multiple Choice Questions (30 marks)

1. Correct 0.0345678 to 3 significant figures.
A. 0.03
B. 0.035
C. 0.0346
D. 0.03457
2. Which of the following approximate values has 4 significant figures?
A. 100.0, cor. to 1 d.p.
B. 3.805 0, cor. to 4 d.p.
C. 0.001 7, cor. to 4 d.p.
D. 0.029 800, cor. to 6 d.p.
3. $5^{120} \times 5^{25} =$
A. 5^{145} .
B. 25^{145} .
C. $5^{3\,000}$.
D. $25^{3\,000}$.
4. The marked price of a mobile phone is 25% above its cost price. A profit of \$500 is made when the phone is sold at a 10% discount on its marked price. Find the marked price of the phone.
A. \$4000
B. \$5000
C. \$6250
D. \$7500
5. Factorize $3(x - 2y) + 2x(2y - x)$.
A. $(x - 2y)(3 - 2x)$
B. $(x - 2y)(3 + 2x)$
C. $(2y - x)(3 - 2x)$
D. $(2y - x)(3 + 2x)$
6. Factorize $6xy^2 - 24x^3$.
A. $y^2 - 4x^2$
B. $(y + 2x)(y - 2x)$
C. $6x(y + 2x)(y - 2x)$
D. $6x(y + 4x)(y - 4x)$

7. Simplify $-x \times (-3y) \times 2y - 7 \times 2y^2 \times x$.

- A. $8xy^2$
- B. $-8xy^2$
- C. x^2y
- D. $-20yx^2$

8. Solve the equation $\frac{x+1}{5} + \frac{7}{3} = \frac{3x-1}{6}$.

- A. -9
- B. -3
- C. 3
- D. 9

9. If A , B and C are constants such that $2x(x-1) - 3x(x-2) + (x-1)(x-2) \equiv Ax^2 + Bx + C$, then $A + B + C =$

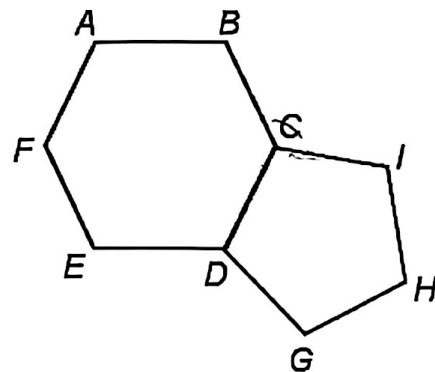
- A. 0.
- B. 1.
- C. 2.
- D. 3.

10. If $B = \frac{x-3}{2x+1}$, then $x =$

- A. $\frac{B-3}{1-2B}$.
- B. $\frac{B+3}{1-2B}$.
- C. $\frac{1-2B}{B-3}$.
- D. $\frac{1-2B}{B+3}$.

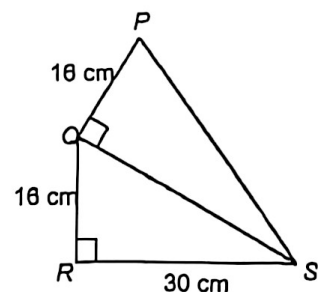
11. In the figure, $ABCDEF$ is a regular hexagon and $CDGHI$ is a regular pentagon. Find $\angle BCI$.

- A. 120°
- B. 128°
- C. 130°
- D. 132°



12. Find $\angle PSQ$ in the figure, correct to 3 significant figures.

- A. 25.2°
 B. 26.2°
 C. 27.0°
 D. 28.1°



13. A restaurant uses 8 kg of meat in 4 days, how much meat will be used in 12 days?
 (Assume the rate of meat consumption is the same each day.)

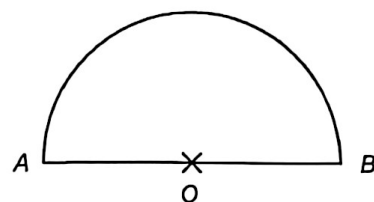
- A. $\frac{8}{3}$ kg
 B. 6 kg
 C. 24 kg
 D. 96 kg

14. If $\begin{cases} \frac{a}{2} - \frac{b}{4} = 42 \\ \frac{a}{3} + \frac{b}{7} = 54 \end{cases}$, which of the following is true?

- A. $a + b = 210$
 B. $a + b = 81$
 C. $b - a = 80$
 D. $a - b = -89$

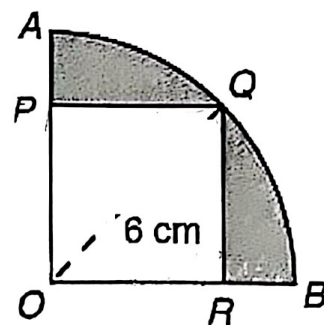
15. The figure shows a semi-circle with centre O . If the radius of the semi-circle is 7 cm, find the perimeter of the semi-circle, correct to 3 significant figures.

- A. 22.0 cm
 B. 29.0 cm
 C. 36.0 cm
 D. 58.0 cm



16. In the figure, OAB is a sector of radius 6 cm and $OPQR$ is a square. Find the area of the shaded region.
 (Give your answer correct to 1 decimal place.)

- A. 20.5 cm^2
 B. 19.2 cm^2
 C. 16.2 cm^2
 D. 10.3 cm^2

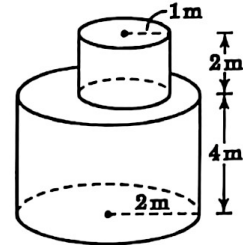


17. In $\triangle ABC$, $AB : BC : AC = 5 : 12 : 13$. Find $\sin A : \sin C$.

- A. 5 : 13
- B. 12 : 5
- C. 13 : 5
- D. 13 : 12

18. The solid in the figure is formed by two right cylinders. Find the total surface area of the solid.

- A. $20\pi \text{ m}^2$
- B. $24\pi \text{ m}^2$
- C. $25\pi \text{ m}^2$
- D. $28\pi \text{ m}^2$

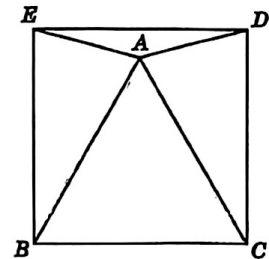


19. If the arc length and the area of a sector are $32\pi \text{ cm}$ and $288\pi \text{ cm}^2$ respectively, then the angle of the sector is

- A. 40° .
- B. 160° .
- C. 200° .
- D. 320° .

20. In the figure, $BCDE$ is a square and $\triangle ABC$ is an equilateral triangle. Find $\angle EAD$.

- A. 130°
- B. 140°
- C. 150°
- D. 160°



End of Section A

Please proceed to the Question-Answer Books for Sections B, C and D.

Final Examination 2025-2026
Form 2 Mathematics

Answer Sheet

Instructions

1. You are advised to use an HB pencil to mark all the answers on this Answer Sheet, so that wrong answers can be completely erased with a clean rubber. You must mark the answers clearly; otherwise you will lose marks if the answers cannot be captured.
 2. You should mark only ONE answer for each question. If you mark more than one answer, you will receive NO MARKS for that question.
 3. Write down your Name in the box below. Besides writing your class and class number in the designated boxes, also fill in the corresponding bubbles clearly.
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Question-Answer Booklet for Section B

(6 marks)

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

2. (a) Solve the simultaneous equations $\begin{cases} 5p - 6q = 20 \dots\dots (1) \\ 4p - 3q = 7 \dots\dots (2) \end{cases}$ by any algebraic method.

(b) Hence, solve $\begin{cases} \frac{5}{2a} - \frac{3}{b} = 20 \\ \frac{2}{a} - \frac{3}{2b} = 7 \end{cases}$

(6 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.

3. (a) Rationalize the denominator of $\frac{2}{\sqrt{10}}$.

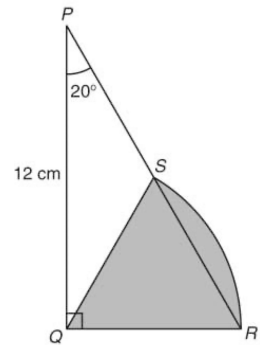
(b) Simplify $\sqrt{40} - \frac{2}{\sqrt{10}}$.

(4 marks)

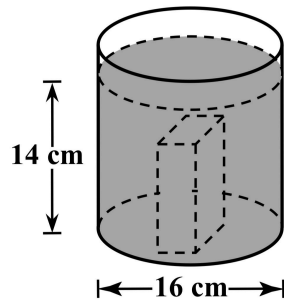
4. If a , b and c are non-zero constants such that $(5x + 6a)x + 8a \equiv 5x^2 + 4(3cx + b)$, find $a : b : c$.

(4 marks)

- (6 marks)



6. In the figure, a rectangular prism of dimensions 2 cm by 3 cm by 10 cm is immersed into the water in a right cylindrical tank of base diameter 16 cm. The depth of water is 14 cm. If the prism is taken out, find the new depth of water. (4 marks)



Final Examination (2025-2026)
Form 2 Mathematics
Question-Answer Booklet for Sections C and D

Name: _____ Class: _____ Class number: _____

Instructions for Sections C and D

1. Please also read the instructions on the cover page of the question booklet for Section A.
2. This question-answer booklet consists of two sections, Sections C and D. Attempt all questions in Section C, while Section D is optional.
3. The full mark for Section C is 40, and the full mark for Section D is 5.
4. In this question-answer booklet, write all your answers in the space provided. **Answers written in the margin will not be marked.**

Section C: Conventional Questions (40 marks)

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- This image shows a single sheet of white paper with horizontal black 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.

2. In Figure (2), $ABCDE$ is a regular pentagon. AE is extended to a point F such that $EB = EF$. BF cuts DE at G .
- (a) Find the size of each interior angle of $ABCDE$. (2 marks)
- (b) Find $\angle EBF$. (3 marks)
- (c) Carl claims that $CF = AB + BE$. Is the claim correct? Explain your answer. (3 marks)

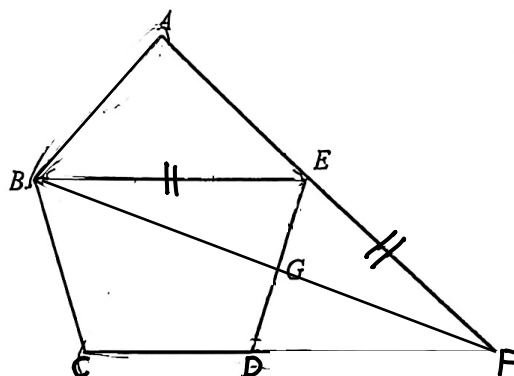


Figure (2)

[illegible]

3. In Figure (3), $AB \parallel DC$. It is given that $\angle ABE = 26^\circ$, $\angle DCE = 33^\circ$ and $\angle EBC = 59^\circ$.

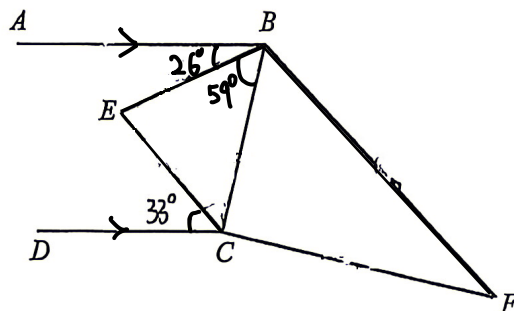


Figure (3)

- (a) Prove that $EC = BC$. (3 marks)
- (b) It is given that $EC = 104$ cm, $BF = 185$ cm and $CF = 153$ cm.
- (i) Is $\triangle BCF$ a right-angled triangle? Explain your answer.
- (ii) Find the area of the quadrilateral $BECF$. (4 marks)

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5. In Figure 5(a), AB is a slope forming an angle of 10° with the horizontal ground CAD . PQ is a tree of height 38 m planted vertically on the slope AB , where P is 50 m away from the point A . On a sunny day, Mr. Au-Yeung stands at the position X and looks at the top of the tree Q . His eye-level is 1.5 m above the ground ($XY = 1.5$ m), and his line of sight makes an angle of 75° with the horizontal. Afterwards, he walks at a constant speed of 1.5 m/s for 80 s from X to X' via A . He looks at the top of the tree Q again, and he finds that his line of sight makes an angle of θ with the horizontal now.

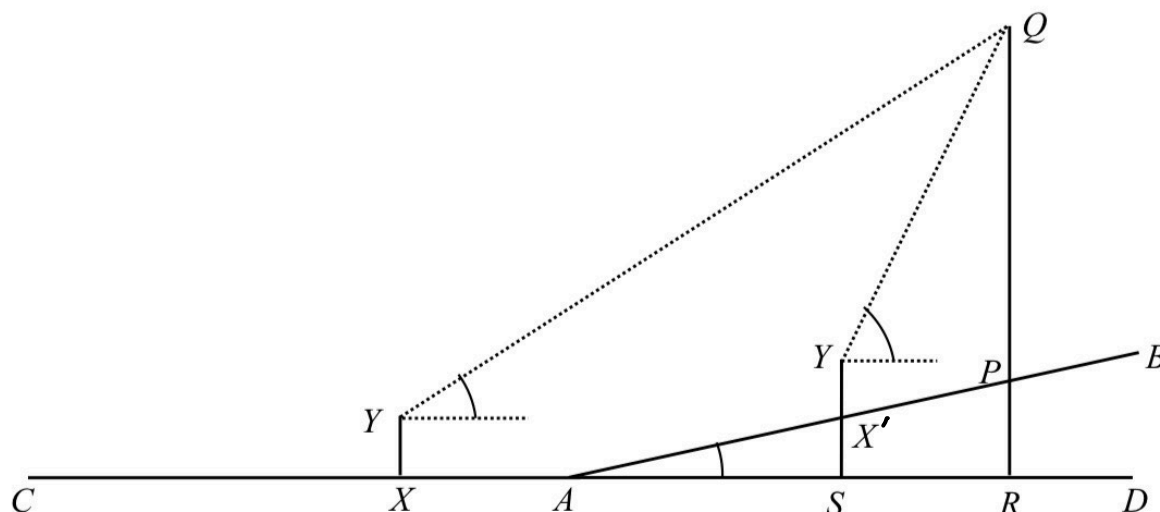


Figure 5(a)

- (a) (i) Find the total distance travelled by Mr. Au-Yeung.
 (ii) Let $AX = h$ m.
 (1) Express the vertical distance between Q and Y in terms of h . Give exact answer.
 (2) Hence, find the value of h .
 (iii) Using (a)(ii), find the value of θ . (8 marks)
- (b) After a typhoon, the tree is tilted at an angle of 15° to become PQ' as shown in Figure 5(b). Mr. Au-Yeung stands at the position X' again and looks at the top of the tree Q' . His new line of sight makes an angle of ϕ with the horizontal. Find ϕ . (3 marks)

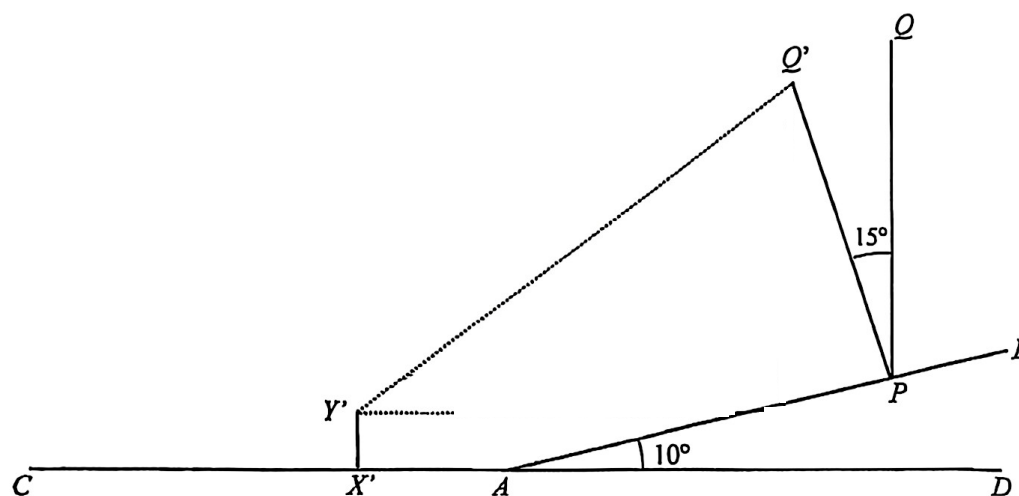


Figure 5(b)

Section D: Challenging Question (Optional, 5 marks)

1. $ABCD$ is a square. E is the mid-point of AD . F is a point lying on AB such that CF is the angle bisector of $\angle EFB$. Find $AF : FB$. (5 marks)

[illegible]

End of Paper