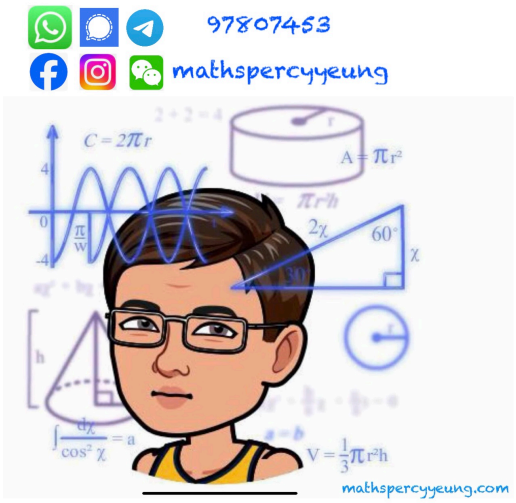


Subject: **Secondary 1 Mathematics**

Paper: **I**

Time Allowed: **1 hour**

Total Marks: **100**

No. of pages: **11**

Page	Marks	
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
Total		

INSTRUCTIONS

(1) Write your name, class and examination number in the spaces provided.

(2) This paper consists of Three Sections, A(1), A(2) and B.

(3) Attempt ALL questions in ALL Sections. Write your answers in the spaces provided in this Question-Answer Book. Do not write in the margins.

(4) Unless otherwise specified, the use of HKEAA approved electronic calculators is allowed.

(5) Unless otherwise specified, all working must be clearly shown.

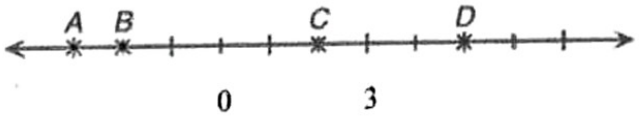
(6) Unless otherwise specified, numerical answers should be exact or correct to 3 significant figures.

Section A1 (40 marks): Working steps must be shown in answering questions in this section.

1. Find the values of the following expressions (4 marks)

(a) $7-(4-3)$ (b) $6-3\,(2+9)$

2. Refer to the given number line.



(a) What numbers do A, B, C, and D represent? (2 marks)

$A=$ $B=$_____ $C=$_____ $D=$_____

(b) For the numbers represented by the letters, (2 marks)

(i) which one is the largest?

(ii) which one is the smallest?

3. Find the values of the following expressions (4 marks)

(a) $(+15)-(+10)$ (b) $\dfrac{(-72)}{(-4)\times(-3)}$

Answers written in the margins will not be marked.

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4. Represent the following word phrases by algebraic expressions. (2 marks)

(a) Subtract 5 from the sum of $2a$.

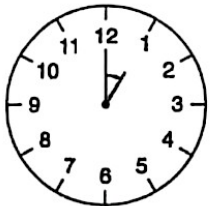
(b) Multiply p by the $2q$.

5. Simplify the following expressions. (4 marks)

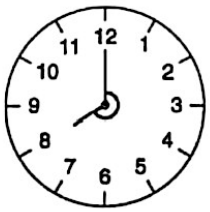
(a) $2b-4+b+8$ (b) $7y \div 7+2y$

6. Without using a protractor, find the marked angle in each of the following clocks. (4 marks)

(a)

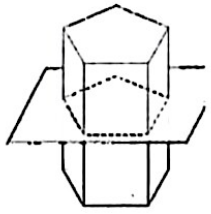


(b)

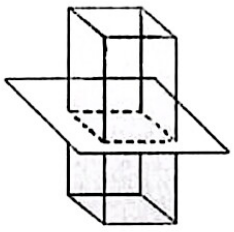


7. Draw the cross-section obtained when the solid is cut at the dotted line along the given plane.

(a)



(b)



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8. Solve the following equations (10 marks)

(a) $3x+2=5$

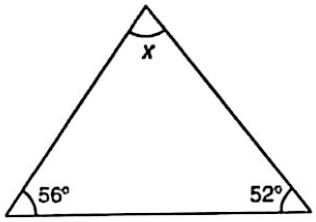
(b) $\frac{x-6}{3}=2$

(c) $3a=35-2a$

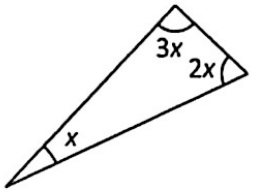
(d) $\frac{w}{3}-\frac{w}{6}=1$

9. Find the unknowns in the following figures. (6 marks)

(a)



(b)



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Section A2 (30 marks): Working steps must be shown in answering questions in this section.

1. Consider the formula $G = \frac{6-5d}{3}$. If $d = -6$, find the value of G by the method of substitution. (2 marks)

2. Without using calculator, find the values of the following expressions. (5 marks)

(a) $(-7) - [4 - (-3)]$

(b) $\left(-\frac{2}{3}\right) - (+1) - \left(-\frac{5}{4}\right)$

3. Solve the equation $3n + 2(n-1) = 4(n-3)$. (3 marks)

Answers written in the margins will not be marked.

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4. Solve the equation $\frac{q}{6} = q - 5$. (3 marks)

5. Solve the equation $\frac{x-4}{2} - \frac{2x+2}{3} = -2$. (4 marks)

Answers written in the margins will not be marked.

6. The marked price of a toy robot is \$700. The toy robot is sold at a discount of 30% on its marked price.
   (a) Find the selling price of the toy robot.

   (b) A loss of \$10 is suffered from selling the toy robot. Find the loss per cent.

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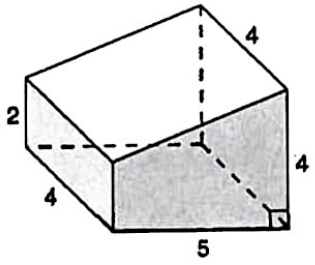
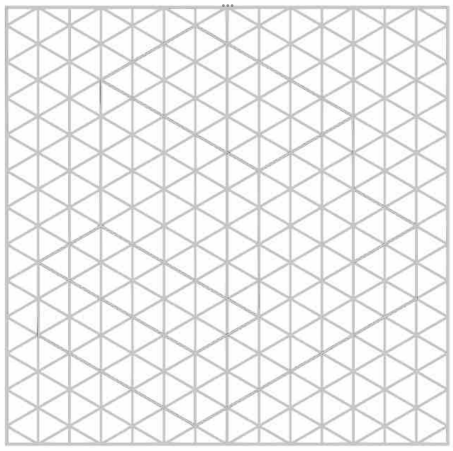
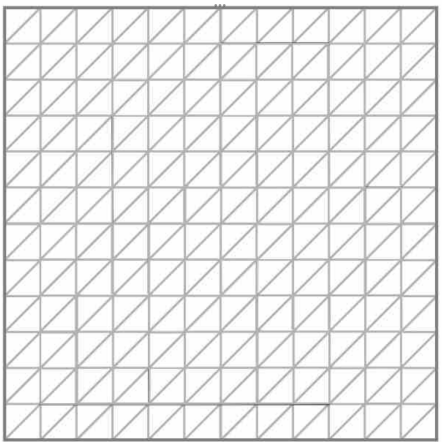
7. Draw the 2-D representations of the given right prism on isometric grid paper and oblique grid paper respectively. (6 marks)



Isometric grid paper



Oblique grid paper

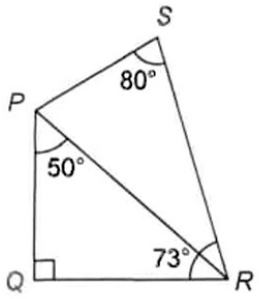


8. There are 4 passengers in a minibus originally. When the minibus arrives at the first stop, 5 passengers get on the minibus. When it arrives at the second stop, 2 passengers take off from the minibus. What is the percentage change in the number of passengers from the start of the journey to the second stop? (3 marks)

Answers written in the margins will not be marked.

Section B (30 marks): Working steps must be shown in answering questions in this section.

1. In the figure, $\angle PQR = 90°$, $\angle QPR = 50°$, $\angle QRS = 73°$ and $\angle PSR = 80°$. Find $\angle SPR$.



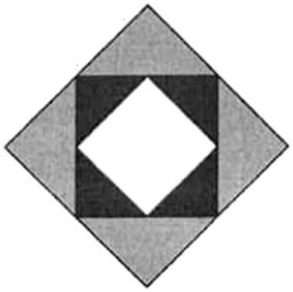
2. The prices of a dozen of pears and a dozen of mangoes are \$48 and \$72 respectively. Cindy buys r pears and s mangoes for \$$C$.

(a) Write down the formula for calculating the amount (\$$C$) Cindy should pay. (2 marks)

(b) If $r = 8$ and $s = 5$, find the amount that Cindy should pay. (2 marks)

Answers written in the margins will not be marked.

3. James, Ken and Leo participate in a dart-throwing game. They take turn to throw 12 darts to the dartboard as shown.



The score obtained by each dart follows the following scoring rules:

Region	Score
Grey	+4
Black	+6
White	+4
Out of the dartboard	–8

The one who obtains the highest score will win the game.

(a) Find the maximum and minimum possible scores obtained by a player. (2 marks)

(b) Among the 12 darts thrown by James, 3 hits the grey region, 2 hits the black region, 3 hits the white region and the remaining darts are out of the dartboard.

(i) Find the total score obtained by James. (2 marks)

(ii) If both Ken and Leo have 5 darts hitting out of the dartboard, will James be the winner of the game? Explain your answer. (2 marks)

Answers written in the margins will not be marked.

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4. Simon is x years old now. His father is more than three times Simon's age by 4. 3 years later, his father's age will be more than two times Simon's age by 19.

(a) Express Simon father's present ages in terms of x. (1 mark)

(b) Find the value of x. (4 marks)

(c) Simon claims that his father's age will be double of his age after a certain number of years. Do you agree? Explain your answer.

Answers written in the margins will not be marked.

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5. A packet of candies is shared among three children Amy, Baron and Cathy. The number of Amy's candies is 30% more than that of Baron. The number of Baron's candies is 10% more than that of Cathy.

(a) By what percentage is the number of Amy's candies more than that of Cathy?

(b) If Cathy has 200 candies, find the total number of candies.

END OF PAPER

Answers written in the margins will not be marked.