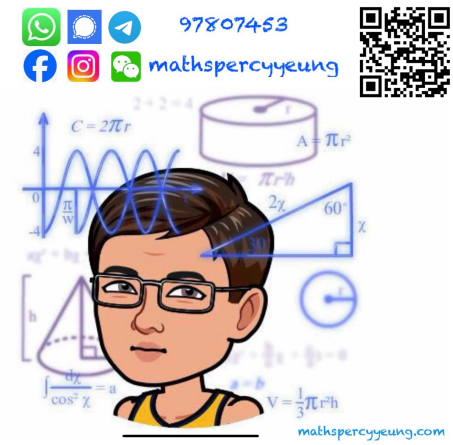
2023-2024 S1
2nd TERM UT1
MATH



2023 – 2024
S1 Second Term Uniform Test 1

MATHEMATICS

Question–Answer Book

8th April, 2024
8:15 am – 9:15 am (1 hour)

This paper must be answered in English

INSTRUCTIONS

1. Write your name, class and class number in the spaces provided on this cover.

2. Attempt ALL questions in this paper. Write your answers in the spaces provided in this Question – Answer Book.

3. Unless otherwise specified, all working must be clearly shown.

4. The diagrams in this paper are not necessarily drawn to scale.

5. NO calculator is allowed.

Sections	Marks
A Total	**/50**
B Total	**/20**
TOTAL	**/70**

Section A (50 marks)

1. Complete the following table. (5 marks)

Polynomial	Number of terms	Constant term	Degree of polynomial	Coefficient of y	Coefficient of y^3
$5y^2+3y^3-2-y$					

2. The marked price of a pen is \$16. It is sold at a discount of 10%.
   (a) Find the selling price of the pen.
   (b) If the cost of the pen is \$12, find the profit percentage.

(5 marks)

3. In a recreation club, there are 180 members and the male is 40% more than the female. Find the difference between the male and the female. (4 marks)

4. Solve the following equations.

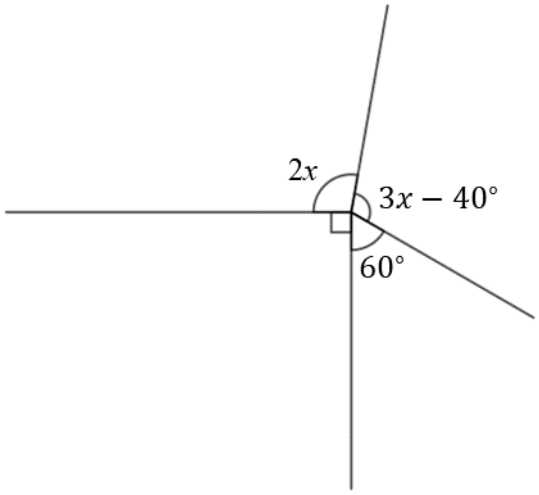
(a) $2x + 4 = 4x - 8$

(b) $\frac{5-2x}{3} + 1 = -6$

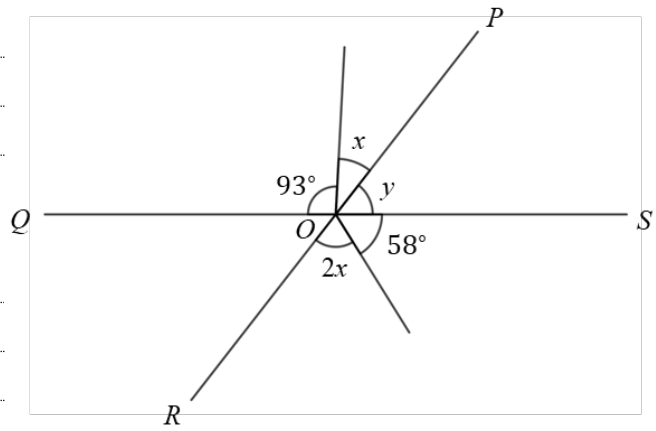
(6 marks)

5. Simplify $\frac{8x^{10}y^4}{-3x^2y \times 16xy}$. (4 marks)

6. Find the value of x . (3 marks)



7. In the figure, POR and QOS are straight lines. Find x and y . (5 marks)



8. Expand and simplify the following expressions.

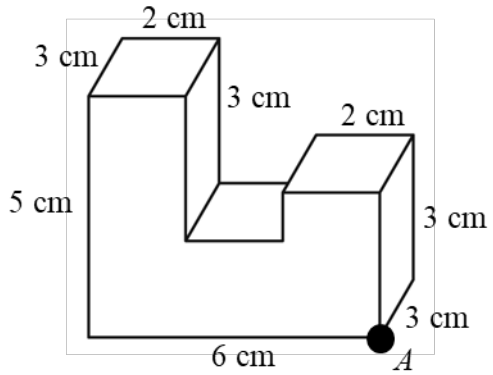
(a) $3\left(a^2-2a+1\right)+5a-7$

(b) $x\left(2xy-3y^2\right)+5yx^2-8xy^2$

(c) $\left(4x+3\right)\left(x-2\right)$

(9 marks)

9. A right prism is shown in the figure below.

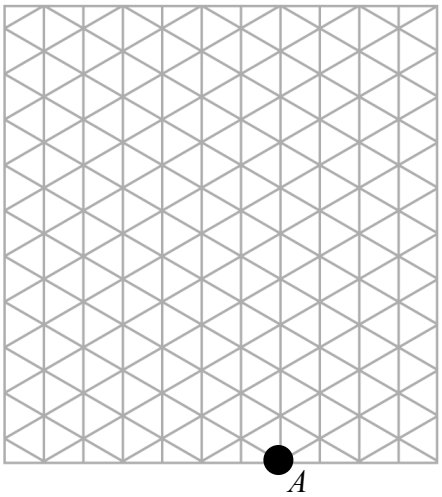


(a) Draw the right prism on the isometric-grid paper below.
(Take each unit in the isometric-grid paper = 1 cm.)

(b) Find the volume of the right prism.

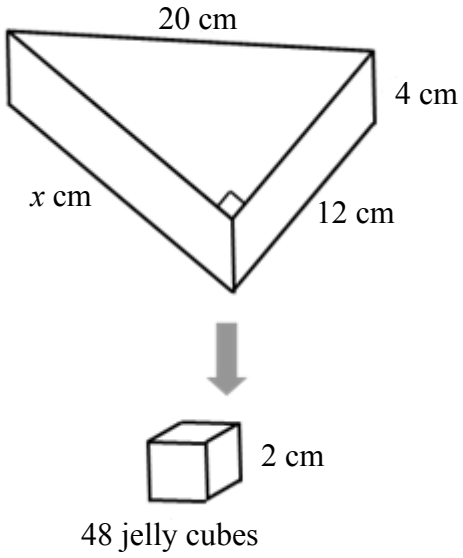
(c) Find the total surface area of the right prism.

(9 marks)



Section B (20 marks)

10. The jelly in the shape of a right triangular prism in the figure is melted and recast into 48 identical jelly cubes.



(a) Find the total volume of 48 jelly cubes. (2 marks)

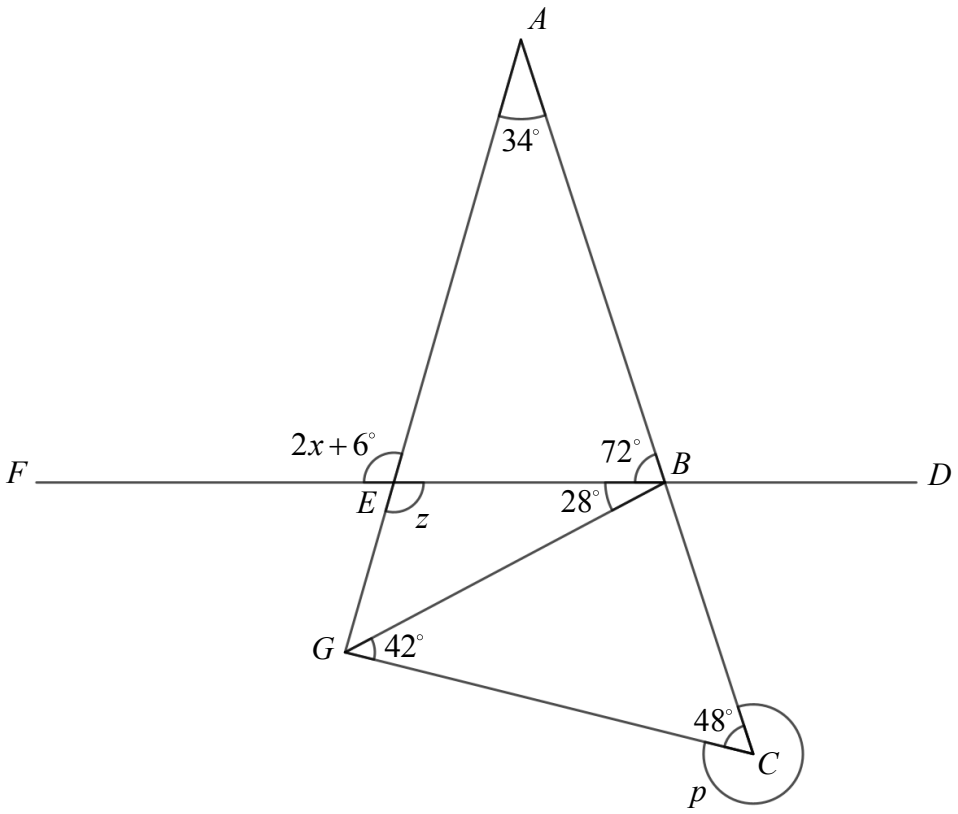
(b) Find the value of x. (2 marks)

(c) Find the total surface area of jelly in the shape of the right triangular prism. (2 marks)

(d) Find the total surface area of 48 jelly cubes. (2 marks)

(e) Hence, find the percentage increase in the total surface area of the jelly. (2 marks)

11. In the figure, AEG and $DBEF$ are straight lines.



(a) Complete the following table. (2 marks)

Angles	$\angle BAE$	$\angle ABG$	p
Type of angle	acute angle (example)		

(b) Are $\angle BGC$ and $\angle BCG$ complementary angles? Explain briefly. (1 mark)

(c) Find $\angle GBC$. Hence, are $\angle ABG$ and $\angle GBC$ supplementary angles? Explain briefly. (2 marks)

(d) Find the values of x and z . (5 marks)

END OF PAPER