

GREENLAWNS HIGH SCHOOL

Std 8

MATHEMATICS

80M

Time 2 hours

Final Examination - 2023

Attempt all questions from Section A and Section B. Omission of essential steps will lead to loss of marks. Rough work must be done on the same page as the rest of the answer.

SECTION A

Question 1

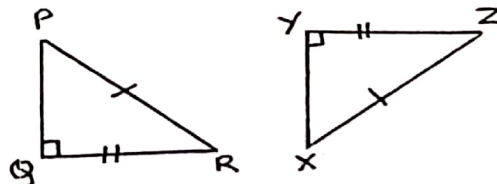
- i) $A = \{x : x \text{ is a composite number, } 25 < x \leq 38\}$ (3)
 a) Write the above set in Roster form
 b) Identify the type of set
 c) Write the cardinal number of the set
- ii) If a car can cover 57.5 km in 5 litres of petrol then how much distance will it cover in 11 litres of petrol. (3)
- iii) Construct quadrilateral ABCD such that $AB = 4\text{cm}$, $BC = 3.5\text{cm}$, $AD = 4\text{cm}$, $AC = 4.5\text{cm}$ and $BD = 5\text{cm}$. Write the measure of CD. Use a compass and ruler only. (4)

Question 2

- i) Solve the following $\frac{4x+7}{7} + 2 = \frac{x+5}{2}$ (3)
- ii) There are 26 children in a hostel who consume 6890 g of rice in a day. If 6 children leave the hostel calculate the quantity of rice required in a day. (3)
- iii) If the volume of a cube is 343 m^3 calculate its total surface area. (4)

Question 3

- i) In the figure drawn below prove that (3)
 a) $\Delta PQR \cong \Delta XYZ$
 b) $PQ = XY$

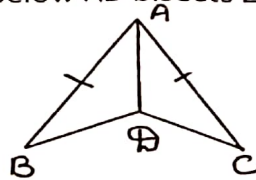


- ii) Solve the following simultaneous equations (3)
 $5x - 3y = 11$; $3x - y = 9$

- iii) If $A = \{ x: x \text{ is a letter in the word 'ORTHO CENTRE' } \}$ (4)
 $B = \{ x: x \text{ is a letter in the word 'CIRCUM CENTRE' } \}$
 a) Write sets A and B in the Roster form
 b) Write $A \cup B$
 c) Write $A \cap B$

Question 4

- i) A wooden box whose external dimensions are 50cm, 24cm and 12cm. (3)
 If the thickness of the box is 1.5cm calculate the capacity of the box.
- ii) In the figure drawn below AD bisects $\angle BAC$, Prove that $\Delta ABD \cong \Delta ACD$ (3)



- iii) Solve $\frac{x-5}{2} - \frac{2x+3}{5} = \frac{3}{2}$ (4)

SECTION B

Question 5

- i) A summer camp had provisions for 1000 students for 20 days. After 5 days (3)
 200 students left the camp. Find the number of days for which the provisions will last.
- ii) Find three odd consecutive numbers whose sum is 219. (3)
- iii) Solve the following simultaneous equations (4)
 $6a + 5b = 23$; $5a + 3b = 18$

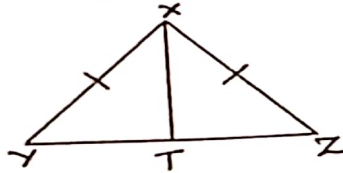
Question 6

- i) If $U = \{ 4,9,16,25,36,49,64,81,100 \}$ (3)
 $P = \{ 9,25,49,81 \}$
 $Q = \{ 4,16,36,64 \}$
 Find a) P' b) Q' c) $P \cap Q'$
- ii) Solve $\frac{2}{6a-19} = \frac{3}{2a-11}$ (3)

- iii) Construct quadrilateral ABCD such that $AB=6\text{cm}$ $BC=5.2\text{cm}$ $AD=4.7\text{cm}$ $CD=4.9\text{cm}$ $\angle BAD = 75^\circ$ (4)

Question 7

- i) The length, breadth and height of a cuboid are 20m, 15m and 8m. Respectively find the cost of painting its surface at Rs 22 per m^2 . (3)
- ii) In the figure drawn below XT bisects YZ. Prove that $\Delta XTY \cong \Delta XTZ$ (3)



- iii) A man is 6 times the age of his son. In two years time he will be 5 times the age of his son. Find their present ages. (4)

Question 8

- i) Do as directed (3)
- $A = \{x : x \in W \text{ and } x \leq 8\}$ write in Roster form
- $B = \{71, 73, 79\}$ write in set builder form
- $C = \{x : x \in N \text{ and } x+10=9\}$ identify the type of set
- ii) A cardboard box has length, breadth and height 75cm, 49cm and 24cm. Respectively, how many smaller boxes each of volume 210cm^3 can be put into the box. (3)
- iii) Solve the following simultaneous equations (4)
- $$49x - 57y = 172 ; \quad 57x - 49y = 252$$