PENACH INTERNATIONAL SCHOOLS SS 1 MATHEMATICS THEORY QUESTIONS

1. Copy and complete the table of value for $Y = 2X^2 - 5X - 1$

| Х | -2 | -1 | 0 | 1 | 2 | 3 | 4 | 5 |
|---|----|----|---|---|---|---|----|---|
| Υ | 17 | | | | | | 11 | |

- a. Using a scale of 2cm to 1 unit on the X-axis and 2 cm to 5 unit on the Y-axis, draw the graph $Y = 2X^2 5X 1$ for $-2 \le X \le 5$.
- b. Use the graph to find the following (i). axis of symmetry (ii). The roots of the equation (iii). The value of X when Y = -1.5
- a. Find a quadratic equation, whose roots are (i). 2 and 5 (ii). 0 and 4 (iii). -4 and -3 (iv) -3 and 1 (v). -2/5 and -3/2
 b. factorize the following expression (i). 2x² + 11x + 5 (ii). 3x² + 11x 6 (III). X² + 6x + 5 (iV). y² + 9y + 14
- a. list 5 plane with its area and perimeter
 b. the sides of a rectangular floor are x m and (x + 7) m. the diagonal is (x + 8) m, calculate in meters (i). the value of x (ii). The area of the floor
 c. what is the area of a square room whose perimeter is 24.75 m?
- 4. i. A triangle has a base of 10 cm and a height of 6 cm. What is the area of the triangle? li. A rectangle has a length of 12 cm and a width of 5 cm. What is the perimeter of the rectangle?

iii. A parallelogram has a base of 15 cm and a corresponding height of 8 cm. What is the area of the parallelogram?

iv. A circular garden has a diameter of 14 m. What is the area of the garden?

- 5. I. A cylinder has a radius of 4 cm and a height of 10 cm. What is the surface area of the cylinder?
 - ii. A cone has a radius of 3 cm and a height of 9 cm. What is the volume of the cone?
 - iii. What is the surface area of a sphere with a radius of 7 cm?
 - iv. Calculate the volume of a sphere with a radius of 5 cm.