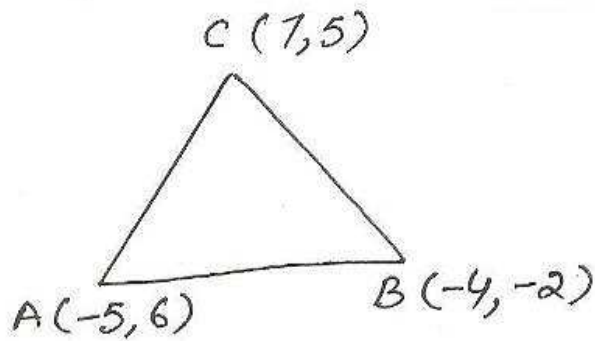


①



$$AB = \sqrt{(-4+5)^2 + (-2-6)^2}$$

$$= \sqrt{1^2 + (-8)^2}$$

$$= \sqrt{65}$$

$$BC = \sqrt{(7+4)^2 + (5+2)^2}$$

$$= \sqrt{11^2 + 7^2}$$

$$= \sqrt{121 + 49}$$

$$= \sqrt{170}$$

$$CA = \sqrt{(-5-7)^2 + (6-5)^2}$$

$$= \sqrt{(-12)^2 + 1^2}$$

$$= \sqrt{144 + 1}$$

$$= \sqrt{145}$$

$$\therefore AB \neq BC \neq CA$$

$\therefore \Delta ABC$  is Scalene

② Let  $P(x, 0)$  be point on x axis

$$O(7, -4)$$

$$PO = 2\sqrt{5}$$

$$\Rightarrow PO^2 = 4 \times 5$$

$$= 20$$

$$(7-x)^2 + (0+4)^2 = 20$$

$$49 + x^2 - 14x + 16 = 20$$

$$x^2 - 14x + 45 = 0$$

$$\Rightarrow x^2 - 9x - 5x + 45 = 0$$

$$\Rightarrow x(x-9) - 5(x-9) = 0$$

$$\Rightarrow (x-9)(x-5) = 0$$

$$\Rightarrow x-9 = 0, x-5 = 0$$

$$\Rightarrow x = 9, x = 5$$

$$\therefore P(9, 0) \text{ or } P(5, 0)$$

2 Points