

Ex 7.1

6(iii) $A(4,5), B(7,6)$
 $C(4,3), D(1,2)$
 $AB = \sqrt{(7-4)^2 + (6-5)^2}$
 $= \sqrt{3^2 + 1^2}$
 $= \sqrt{9+1}$
 $= \sqrt{10}$

$BC = \sqrt{(4-7)^2 + (3-6)^2}$
 $= \sqrt{(-3)^2 + (-3)^2}$
 $= \sqrt{9+9}$
 $= \sqrt{18}$
 $= 3\sqrt{2}$

$CD = \sqrt{(1-4)^2 + (2-3)^2}$
 $= \sqrt{(-3)^2 + (-1)^2}$
 $= \sqrt{9+1}$
 $= \sqrt{10}$

$DA = \sqrt{(4-1)^2 + (5-2)^2}$
 $= \sqrt{3^2 + 3^2}$
 $= \sqrt{9+9}$
 $= \sqrt{18}$
 $= 3\sqrt{2}$

$AC = \sqrt{(4-4)^2 + (3-5)^2}$
 $= \sqrt{0^2 + (-2)^2}$
 $= \sqrt{4}$
 $= 2$

$BD = \sqrt{(1-7)^2 + (2-6)^2}$
 $= \sqrt{(-6)^2 + (-4)^2}$
 $= \sqrt{36+16}$
 $= \sqrt{52}$
 $= 2\sqrt{13}$

$\therefore AB = CD, BC = DA$
 and $AC \neq BD$

$\therefore \square ABCD$ is a \parallel gm.

7) Let any point on x-axis
 $P(x,0)$

$A(2,-5), B(-2,9)$
 $AP = BP$

$\Rightarrow AP^2 = BP^2$
 $(x-2)^2 + (0+5)^2 = (x+2)^2 + (0-9)^2$

$\Rightarrow \cancel{x^2} + 4 - 4x + 25 = \cancel{x^2} + 4 + 4x + 81$

$\Rightarrow -8x = 81 - 25$

$\Rightarrow -8x = 56$

$\Rightarrow x = -7$

$\therefore P(-7,0)$ is reqd. point