

Ex 7.1

⑥ i

$$A(-1, -2), B(1, 0), C(-1, 2),$$

$$D(-3, 0)$$

$$AB = \sqrt{(1+1)^2 + (0+2)^2}$$

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

$$= \sqrt{4+4}$$

$$= \sqrt{8}$$

$$= \sqrt{2 \times 2 \times 2}$$

$$= 2\sqrt{2}$$

$$BC = \sqrt{(-1-1)^2 + (2-0)^2}$$

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

$$= \sqrt{4+4}$$

$$= \sqrt{8}$$

$$= \sqrt{2 \times 2 \times 2}$$

$$= 2\sqrt{2}$$

$$CD = \sqrt{(-3+1)^2 + (0-2)^2}$$

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

$$= \sqrt{4+4}$$

$$= \sqrt{8}$$

$$= \sqrt{2 \times 2 \times 2}$$

$$= 2\sqrt{2}$$

$$DA = \sqrt{(1+3)^2 + (-2-0)^2}$$

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

$$= \sqrt{4+4}$$

$$= \sqrt{8}$$

$$= 2\sqrt{2}$$

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

$$= \sqrt{0^2 + 4^2}$$

$$= \sqrt{16}$$

$$= 4$$

$$BD = \sqrt{(-3-1)^2 + (0-0)^2}$$

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

$$= \sqrt{16}$$

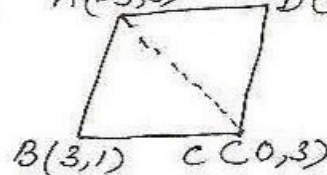
$$= 4$$

$\therefore AB = BC = CD = DA$

and $AC = BD$

$\therefore \square ABCD$ is a square.

⑥ ii $A(-3, 5) \quad D(-1, 4)$



$$AB = \sqrt{(3+3)^2 + (1-5)^2}$$

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

$$= \sqrt{36+16}$$

$$= \sqrt{52}$$

$$= 2\sqrt{13}$$

$$BC = \sqrt{(0-3)^2 + (3-1)^2}$$

$$= \sqrt{(-3)^2 + 2^2}$$

$$= \sqrt{13}$$

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

$$= \sqrt{9+4}$$

$$= \sqrt{13}$$

$\therefore AC + BC = AB$

$\therefore \triangle ABC$
and hence

$\square ABCD$
cannot be const