

④ $A(5, -2), B(6, 4), C(7, -2)$

$$\begin{aligned} AB &= \sqrt{(6-5)^2 + (4+2)^2} \\ &= \sqrt{1^2 + 6^2} \\ &= \sqrt{1+36} \\ &= \sqrt{37} \end{aligned}$$

$$\begin{aligned} BC &= \sqrt{(7-6)^2 + (-2-4)^2} \\ &= \sqrt{1^2 + (-6)^2} \\ &= \sqrt{1+36} \\ &= \sqrt{37} \end{aligned}$$

$$\begin{aligned} CA &= \sqrt{(6-7)^2 + (-2+2)^2} \\ &= \sqrt{(-1)^2 + 0^2} \\ &= \sqrt{1} \\ &= \sqrt{1 \times 1} \\ &= 1 \end{aligned}$$

$\therefore CA + BC \neq AB$

and $AB = BC$

\therefore vertices of isos. Δ

⑤ $A(3, 4), B(6, 7)$

$C(9, 4), D(6, 1)$

$$\begin{aligned} AB &= \sqrt{(6-3)^2 + (7-4)^2} \\ &= \sqrt{3^2 + 3^2} \\ &= \sqrt{9+9} \\ &= \sqrt{18} \\ &= 3\sqrt{2} \end{aligned}$$

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

$$\begin{aligned} CD &= \sqrt{(6-9)^2 + (1-4)^2} \\ &= \sqrt{(-3)^2 + (-3)^2} \\ &= \sqrt{9+9} \\ &= \sqrt{18} \\ &= 3\sqrt{2} \end{aligned}$$

$$\begin{aligned} DA &= \sqrt{(3-6)^2 + (4-1)^2} \\ &= \sqrt{(-3)^2 + 3^2} \\ &= \sqrt{9+9} \\ &= \sqrt{18} \\ &= 3\sqrt{2} \end{aligned}$$

$$\begin{aligned} AC &= \sqrt{(9-3)^2 + (4-4)^2} \\ &= \sqrt{36+0} \\ &= \sqrt{36} = 6 \end{aligned}$$

$$BD = \sqrt{(6-6)^2 + (1-7)^2}$$

$$\begin{aligned} \Rightarrow BD &= \sqrt{0^2 + (-6)^2} \\ &= \sqrt{36} \\ &= 6 \end{aligned}$$

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

$\therefore \square ABCD$ is a square