

(11)

$$\begin{aligned} PC &= \sqrt{(3+2)^2 + (5-4)^2} \\ &= \sqrt{25+1} \\ &= \sqrt{26} \\ &= 5.09 \text{ units} \end{aligned}$$

$$\begin{aligned} CD &= \sqrt{(-3-2)^2 + (0-5)^2} \\ &= \sqrt{25+25} \\ &= \sqrt{50} \\ &= 5\sqrt{2} \text{ units} \end{aligned}$$

$$\begin{aligned} DA &= \sqrt{(-3+1)^2 + (0+2)^2} \\ &= \sqrt{4+4} \\ &= \sqrt{8} \\ &= 2\sqrt{2} \end{aligned}$$

$$\begin{aligned} \therefore AB &= CD \\ BC &= DA \end{aligned}$$

$\therefore \square ABCD$ is a parallelogram

$$\begin{aligned} AC &= \sqrt{(2+1)^2 + (5+2)^2} \\ &= \sqrt{9+49} \\ &= \sqrt{58} \text{ units} \end{aligned}$$

$$\begin{aligned} BD &= \sqrt{(-3-4)^2 + (0-3)^2} \\ &= \sqrt{49+9} \\ &= \sqrt{58} \text{ units} \end{aligned}$$

$$\therefore AC = BD$$

\therefore parallelogram $ABCD$ is a rectangle.

True

radius = 6 units
 $\therefore PC \neq$ radius
 P does not lie on the circle
 False

$$\begin{aligned} (12) \quad AB &= \sqrt{(4+1)^2 + (3+2)^2} \\ &= \sqrt{25+25} \\ &= \sqrt{50} \\ &= 5\sqrt{2} \text{ units} \end{aligned}$$

$$\begin{aligned} BC &= \sqrt{(2-4)^2 + (5-3)^2} \\ &= \sqrt{4+4} \\ &= \sqrt{8} \\ &= 2\sqrt{2} \end{aligned}$$