

If coordinates of the center of the circle are (x_0, y_0) and radius of the circle is R then equation of the circle is such:

$$(x - x_0)^2 + (y - y_0)^2 = R^2$$

In our case:

$$x_0 = 5$$

$$y_0 = -3$$

$$R = \sqrt{6}$$

Substituting this into circle equation we get:

$$(x - 5)^2 + (y - (-3))^2 = \sqrt{6}^2$$

Simplifying:

$$(x - 5)^2 + (y + 3)^2 = 6$$