Equation of a Circle: Question 13

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$$2(x^2 + y^2 - 4x + 5y + 1) = 0 \tag{1}$$

$$\frac{2(x^2 + y^2 - 4x + 5y + 1)}{2} = \frac{0}{2} \tag{2}$$

$$x^2 + y^2 - 4x + 5y = -1 \tag{3}$$

$$(x^2 - 4x + (\frac{-4}{2})^2) + (y^2 + 5y + (\frac{5}{2})^2) = -1 + 4 + \frac{25}{4} \tag{4}$$

$$(x - 2)^2 + (y + \frac{5}{2})^2 = \frac{37}{4} \tag{5}$$

$$\text{Center} = (2, -\frac{5}{2}) \tag{6}$$

$$\text{Radius} = \sqrt{\frac{37}{4}} \tag{7}$$