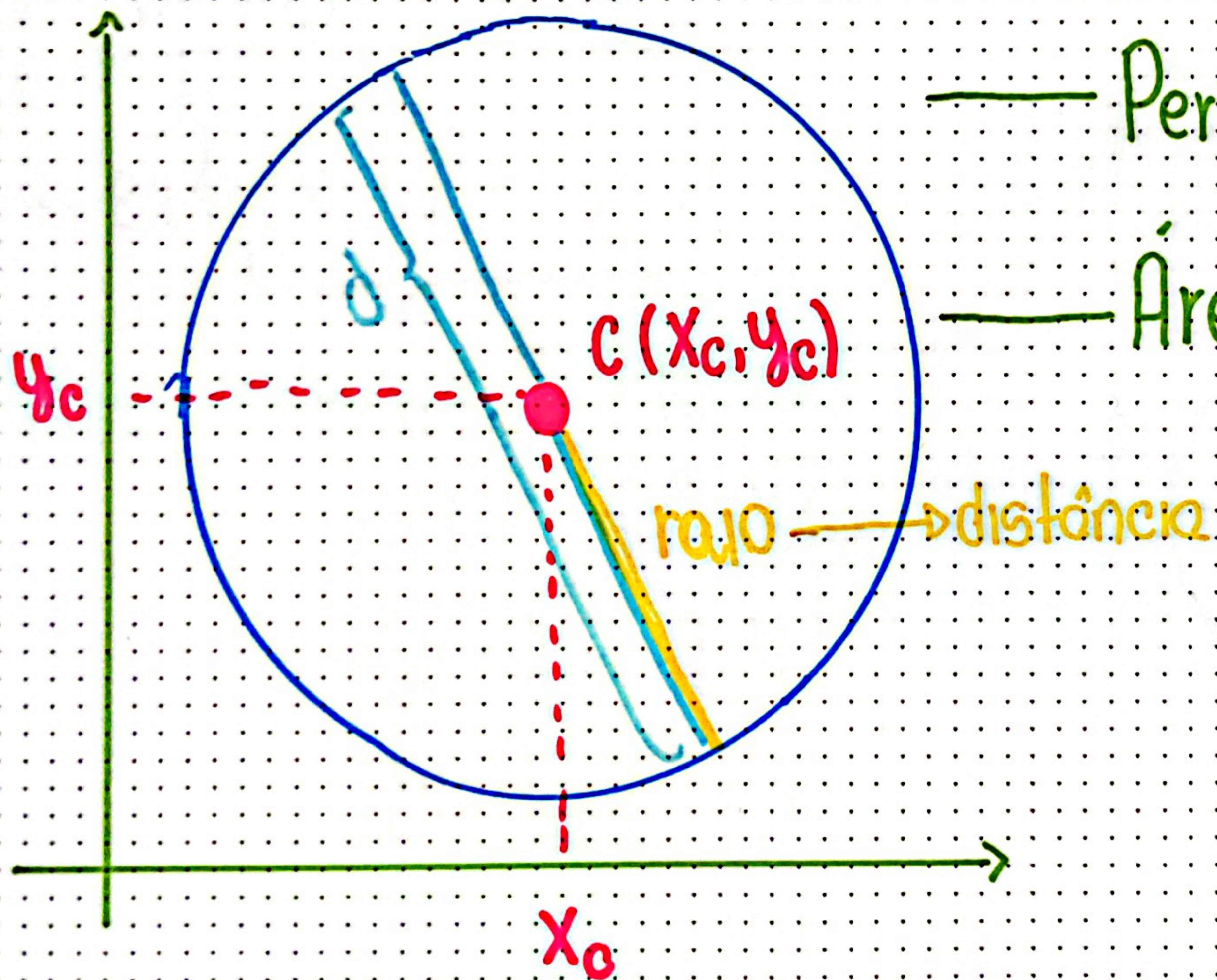


Circunferência:



— Perímetro: $2 \cdot \pi \cdot r$

— Área: $\pi \cdot r^2$

raios!

$$d = 2 \cdot r$$

equação reduzida:

$$(x - x_c)^2 + (y - y_c)^2 = R^2$$

$$\text{ex 1: } (x - 5)^2 + (y - 2)^2 = 16$$

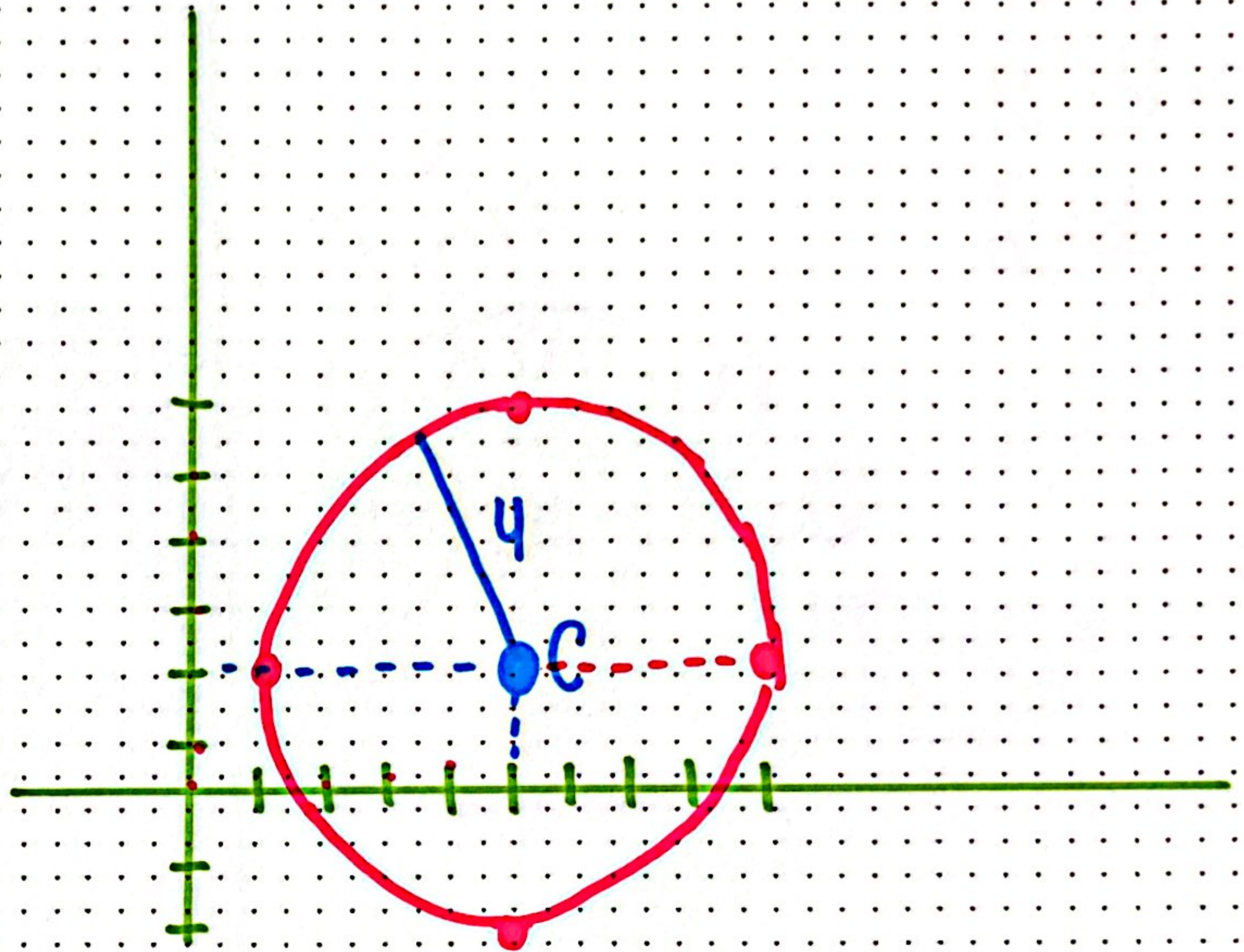
$$-x_c = -5 \quad | \quad R^2 = 16$$

$$\underline{x_c = 5} \quad | \quad R = \sqrt{16}$$

$$-y_c = -2 \quad | \quad R = 4!$$

$$\underline{y_c = 2} \quad | \quad C(5, 2)$$

$$\underline{R = 4}$$



$$\text{ex 2: } (x+1)^2 + (y-3)^2 = 9$$

$$\downarrow$$

 $-x_c$

$$-x_c = 1$$

$$\boxed{x_c = -1}$$

$$\downarrow$$

 $-y_c$

$$-y_c = -3$$

$$\boxed{y_c = 3}$$

$$\downarrow$$

 R^2

$$R^2 = 9$$

$$R = \sqrt{9}$$

$$\boxed{R = 3}$$

$$\text{ex 3: } x^2 + y^2 = 4$$

$$x_c = 0$$

$$y_c = 0$$

$$R^2 = 4$$

$$R = 2$$

$$(x-0)^2$$

$$(x-0)(x-0)$$

$$\boxed{x^2 - 0x - 0x + 0}$$

eq. geral

$$\rightarrow (x-x_c)^2 + (y-y_c)^2 = R^2$$

$$(x-x_c)(x-x_c) + (y-y_c)(y-y_c) = R^2$$

$$\rightarrow \text{ex: } (x+5)^2 + (y-2)^2 = 25 \rightarrow \text{red}$$

$$(x+5)(x+5) + (y-2)(y-2) = 25$$

$$x^2 + 5x + 5x + 25 + y^2 - 2y - 2y + 4 = 25$$

$$x^2 + y^2 + 10x - 4y + 4 = 0$$

eq. geral!

pra converter a eq. reduzida em geral, a gente distribui a red.

$$\underbrace{(x-3)^2 + (y-1)^2}_{=16}$$

$$\underbrace{(x-3)(x-3)}_{\text{red}} + \underbrace{(y-1)(y-1)}_{\text{green}} = 16$$

$$x^2 - 3x - 3x + 9 + y^2 - y - y + 1 = 16$$

$$x^2 - 6x + 9 + y^2 - 2y + 1 = 16$$

$$x^2 + y^2 - 6x - 2y + 9 + 1 - 16$$

$$\boxed{x^2 + y^2 - 6x - 2y - 6 = 0}$$

da geral p/ reduzida:

ex: $1 \cdot x^2 + y^2 - 6x - 2y - 6 = 0$

1° $\rightarrow (x \quad)^2 + (y \quad)^2 =$

2° $\rightarrow (x - \frac{6}{2})^2 + (y - \frac{2}{2})^2 =$

3° $\rightarrow (x - 3)^2 + (y - 1)^2 = 6$

4° $\rightarrow (x - 3)^2 + (y - 1)^2 = 6 + 3^2 + 1^2$

9 1

$(x - 3)^2 + (y - 1)^2 = 16$

$C(3, 1)$

$R = 4$

da geral p/ reduzida:

ex: $1 \cdot x^2 + y^2 - 6x - 2y - 6 = 0$

1° $\rightarrow (x \quad)^2 + (y \quad)^2 =$

2° $\rightarrow (x - \frac{6}{2})^2 + (y - \frac{2}{2})^2 =$

3° $\rightarrow (x - 3)^2 + (y - 1)^2 = 6$

4° $\rightarrow (x - 3)^2 + (y - 1)^2 = 6 + 3^2 + 1^2$

9 1

$(x - 3)^2 + (y - 1)^2 = 16$

$C(3, 1)$

$R = 4$

$$x^2 + y^2 + \underline{10}x - \underline{4}y + 4 = 0$$

$$\rightarrow \left(x + \frac{10}{2}\right)^2 + \left(y - \frac{4}{2}\right)^2 = -4$$

$$(x+5)^2 + (y-2)^2 = \cancel{-4} + 5^2 + 2^2$$

$C(-5, 2)$

$$\hookrightarrow (x+5)^2 + (y-2)^2 = 25$$

$\hookrightarrow R=5$