

Key

1. Rewrite in General Form (meaning without parentheses and = 0)

$$(x-4)^2 + (y+2)^2 = 36$$

$$\begin{array}{r} x^2 \phantom{+} (x-4)(x-4) \phantom{+} (y+2)(y+2) = 36 \\ \phantom{x^2} + -4x + -4x + 16 \phantom{+} y^2 + 2y + 2y + 4 = 36 \end{array}$$

$$\begin{array}{l} x^2 - 8x + 16 + y^2 + 4y + 4 = 36 \\ x^2 + y^2 - 8x + 4y + 20 = 36 \end{array}$$

$$\boxed{x^2 + y^2 - 8x + 4y - 16 = 0}$$

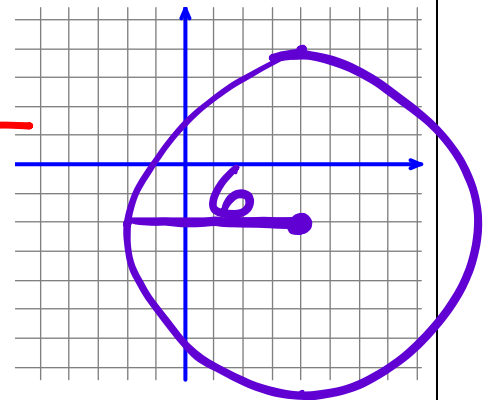
2. Rewrite in Standard Form and then graph:

$$x^2 + y^2 - 8x + 4y - 16 = 0$$

$$x^2 - 8x + 16 + y^2 + 4y + 4 = 16 + 16 + 4$$

$$(x-4)^2 + (y+2)^2 = 36$$

$$\boxed{C(4, -2)} \quad \boxed{\text{radius} = 6}$$



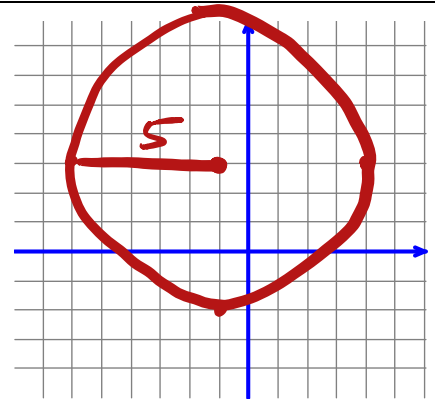
3. Rewrite in Standard Form and then graph:

$$x^2 + y^2 + 2x - 6y - 15 = 0$$

$$x^2 + 2x + 1 + y^2 - 6y + 9 = 15 + 1 + 9$$

$$(x+1)^2 + (y-3)^2 = 25$$

$$\boxed{C(-1, 3)} \quad \boxed{\text{radius} = 5}$$



4. Rewrite in Standard Form and then graph:

$$x^2 + y^2 - 12x - 10y + 57 = 0$$

$$x^2 - 12x + 36 + y^2 - 10y + 25 = -57 + 36 + 25$$

$$(x-6)^2 + (y-5)^2 = 4$$

$$\boxed{C(6, 5)} \quad \boxed{\text{radius} = 2}$$

