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Ejercicio 1

$$C(3, 7) \quad r=4$$

$$(x-h)^2 + (y-k)^2 = r^2$$

$$(x-3)^2 + (y-7)^2 = 4^2$$

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$x^2 - 2(x)(3) - 9 + y^2 - 2(y)(7) - 49 = 16$$

$$x^2 - 6x - 9 + y^2 - 14y - 49 = 16$$

$$x^2 + y^2 + 6x - 14y + 9 + 49 - 16 = 0$$

$$x^2 + y^2 - 6x - 14y + 42 = 0$$

Ejercicio 2

$$C(1, 10) \quad r=7$$

$$(x-h)^2 + (y-k)^2 = r^2$$

$$(x-1)^2 + (y-10)^2 = 7^2$$

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$x^2 - 2(x)(1) - 1 + y^2 - 2(y)(10) - 100 = 49$$

$$x^2 - 2x - 1 + y^2 - 20y - 100 = 49$$

$$x^2 + y^2 + 2x - 20y + 1 + 100 - 49 = 0$$

$$x^2 + y^2 - 2x - 14y + 52 = 0$$

$$C(3,6) \quad r=5$$

Ejercicio 3

$$(x-h)^2 + (y-k)^2 = r^2$$

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

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$x^2 - 2(x)(3) - 9 + y^2 - 2(y)(6) - 36 = 25$$

$$x^2 - 6x - 9 + y^2 - 12y - 36 = 25$$

$$x^2 + y^2 + 6x - 12y + 9 + 36 - 25 = 0$$

$$x^2 + y^2 - 6x - 12y + 20 = 0$$

$$C(5,6) \quad r=6$$

Ejercicio 4

$$(x-h)^2 + (y-k)^2 = r^2$$

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

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$x^2 - 2(x)(5) - 25 + y^2 - 2(y)(6) - 36 = 36$$

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

$$x^2 + y^2 + 10x - 12y + 25 + 36 - 36 = 0$$

$$x^2 + y^2 - 10x - 14y + 25 = 0$$