## THEORETICAL PART:

**Definition:**

The **standard form** of the equation for a circle of radius $r$ and center $(a, b)$ is

$$(x - a)^2 + (y - b)^2 = r^2.$$

## PRACTICAL PART:

1. Find the standard form of the equation for the circle with radius 3 and center $(-2, 7)$.

2. Find the standard form of the equation for the circle with a diameter whose endpoints are $(-4, -1)$ and $(2, 5)$.

3. Sketch the graph of the circle defined by $(x - 2)^2 + (y + 3)^2 = 4$.

4. Sketch the graph of the equation $x^2 + y^2 + 8x - 2y = -1$.