1.) (10 pts.) Determine the center and radius of the circle given by: \( x^2 - 2x + y^2 + 6y = -6 \)

2.) (10 pts.) Solve for \( x \) in the following diagram:

![Diagram](image)

3.) (10 pts.) Let \( f(x) = \frac{3}{x + 4} \) and \( g(x) = \frac{x}{1 - x} \). Find and simplify the functional composition \( f(g(x)) \).