

## Problem 25

In each of Problems 1 through 32, solve the given differential equation. If an initial condition is given, also find the solution that satisfies it.

$$\left(2\frac{x}{y} - \frac{y}{x^2 + y^2}\right) + \left(\frac{x}{x^2 + y^2} - \frac{x^2}{y^2}\right) \frac{dy}{dx} = 0$$