

MATB42: Assignment #6

1. Let $\omega = \frac{-y}{x^2 + y^2} dx + \frac{x}{x^2 + y^2} dy$. Calculate $\int_{\gamma} \omega$ where

- (a) γ is the boundary of the triangle with vertices (in order) (0,1), (2,3) and (2,1).
- (b) γ is the boundary curve of the region $\left\{ (x, y) \in \mathbb{R}^2 \mid \right.$