

1. Consider the region R in \mathbb{R}^2 bounded by the parabolas $y^2 - x - 4 = 0$ and $y^2 + x - 4 = 0$

(a) Sketch the region R . Label the points where two parabolas meet. (2 points)

(b) Write down a double integral which computes the area of R and evaluate it. (4 points)

2. Let R be the region shown at right. Use polar coordinates to evaluate $\iint_R x \, dA$. (4 points)

