

$$\int_A y |\cos x| dA =$$

$$= \int_{-1}^0 \int_0^{\pi} y |\cos x| dx dy =$$

$$= 2 \int_{-1}^0 \int_0^{\pi/2} y \cos x dx dy =$$

$$= 2 \int_{-1}^0 y [\sin x]_0^{\pi/2} dy =$$

$$= 2 \int_{-1}^0 y dy = 2 \left[ \frac{y^2}{2} \right]_{-1}^0 = 2 \cdot (-1/2) = -1$$

$$A: [0, \pi] \times [0, -1]$$

