

Name:
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MAC 2313.3118
Cyr

Quiz 10

You must show all work to receive full credit!!

Problem 1. (5 pts) Evaluate $\iint_{\mathcal{D}} y(x^2 + y^2)^3 dA$ using polar coordinates, where

$$\mathcal{D} = \{(x, y) \mid x^2 + y^2 \leq 1, y \geq 0\}.$$

Problem 2. (5 pts) Evaluate $\iiint_{\mathcal{W}} \rho^{-1} dV$ using spherical coordinates, where

$$\mathcal{W} = \{(x, y, z) \mid 3 \leq x^2 + y^2 + z^2 \leq 9\}.$$