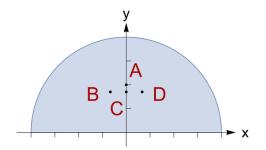# Applications of Double Integrals

Question

The figure shows a steel semi-circular plate described by a region $\mathcal{R}$, along with four marked points. Which of the points could be $(\bar{x}, \bar{y})$ where

$$\bar{x} = \frac{1}{m} \iint_{\mathcal{R}} x \, dA, \ \bar{y} = \frac{1}{m} \iint_{\mathcal{R}} y \, dA, \ m = \iint_{\mathcal{R}} dA?$$