NET #9: A thin wire is bent into the shape of a semicircle with
\[ x = 4 \cos(\pi t), \quad y = 4 \sin(\pi t), \quad 0 \leq t \leq 1. \]
Suppose that the uniform linear density of the wire is
\[ \rho(x, y) = 3 \text{ g/cm}. \]
Find the coordinates of the c.m. of the wire. Give both an exact answer and an approximation rounded to 1 decimal place. Graph the wire and the c.m.

NET #10: Evaluate \( \int_C \vec{F} \cdot d\vec{r} \) if \( \vec{F}(x, y, z) = \langle z, y, -x \rangle \) and \( \vec{r}(t) = \langle t, \sin(t), \cos(t) \rangle, \quad 0 \leq t \leq \pi. \)