

Quiz 8. Otc. 31.

1. Set up a double iterated integral in polar coordinates for the area of the region in the **fourth** quadrant inside the cardioid $r = 1 + \sin \theta$. Do **not** evaluate the integral.

2. Find the mass of the lamina that occupies the region D in the first quadrant bounded by the parabola $y = x^2$ and the line $y = 1$, with density given by $\rho(x, y) = xy$.

3. Find the area of the part of the surface $z = x^2$ that lies above the triangle in the xy -plane with vertices $(0,0)$, $(1,0)$ and $(1,1)$