Fake Quiz 1 Calc 3 10/4/2019

This is a fake quiz, this is *only* a fake quiz. In the event of an actual quiz, you'd have been given fair warning. Repeat: This is *only* a fake quiz.

1. Let $f(x,y) = 4x^2 + 9y^2$. Let R be the triangle with vertices (0,0), (4,0), and (4,2). Evaluate $\iint_R f\, dA$.

2. Set up a double integral for the volume of the first-octant portion of a sphere with radius 1 and evaluate it.

3. Let $s(x, y) = k\sqrt{x^2 + y^2}$. Let R be the collection of points in the first quadrant more than 3 units from the origin but less than 5 units from the origin. Set up a double integral for $\iint_R s\, dA$ and evaluate it.