Quiz 7 Math 232, Calculus III, Fall 2016 Name:

Show all your work to receive full credit.

1. Evaluate $\int_{-3}^{3}\int_{0}^{\pi/2} y + y^2\cos(x)\,dx\,dy$.

2. Sketch the region of integration and change the order of integration of $\int_{0}^{2}\int_{x^2}^{4} \sqrt{y}\sin(y)\,dy\,dx$. Do not evaluate.

3. Sketch the region D and evaluate $\int\int_D x^2 + 2y \; dA$ where D is bounded by $y = x$, $y = x^3$, and $x \geq 0$.