Quiz 9 Math 232, Calculus III, Spring 2018 Name:

Show all your work to receive full credit.

Consider the following integral

$$\int\int\int_E x\, dV$$

where E is the region below $z = 4$ and above $z = x^2 + y^2$ in the FIRST QUADRANT

1. Set up the integral (do not evaluate) $\int\int\int_E x\, dV$ in rectangular form. Hint: It will be helpful to sketch the domain D on the xy plane.

2. Set up and evaluate the integral $\int\int\int_E x\, dV$ in cylindrical form.