Quiz 5: §15.1-15.4

Complete the following problems to the best of your ability. **SHOW ALL OF YOUR WORK.** Unshown work will not be graded. You may not use a calculator.

1. Consider the following integral: $\int_0^1 \int_{-\sqrt{y}}^{\sqrt{y}} 2yx^2 \, dx \, dy$

   (a) Reverse the order of integration for this integral (just set it up).

   (b) Evaluate the integral using whichever presentation you prefer.

2. Consider the following integral: $\int_0^1 \int_0^{\sqrt{1-y^2}} (x^2 + y^2)^{3/2} \, dx \, dy$

   (a) Convert the integral to polar coordinates.

   (b) Evaluate the integral using whichever presentation you prefer.