QUIZ 5 - MATH 152 YOUR NAME:

Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

- 1. Please, read carefully so as not to misunderstand the region under consideration. Let $f(x) = -x^2 + 4x$ and g(x) = x. Consider the region enclosed by the graphs of y = f(x) and y = g(x).
 - (a) Make a rough sketch of this region on the space provided here:

(b) Use the method of cylindrical shells to compute the volume of the solid obtained by rotating the region of Part (a) around the y-axis.

2. Consider the differential equation y' = x - xy. Find a general solution (giving y explicitly in terms of x) under the hypothesis that y > 1.