

No books, notes or graphing calculators. Turn off your cell phones. Good luck!

1. Consider the region in the first quadrant bounded by the curves  $y = 2(x - 1)^2$ ,  $y = x^2 - 2x + 5$  and the  $y$ -axis.

(2 pt) a. Sketch the region.

(8 pt) b. Find the volume of the solid of revolution obtained by rotating the region around the  $y$ -axis. State clearly which method you use: shells or washers. Sketch a typical shell or washer.