## Homework Assignment 9 Due on Thursday 5/2

Do the following exercise problems in the text book by Salas, Hille and Etgen,
Sec 6.1: 12, 18, 22, 36
Sec 6.2: 8, 14, 24, 28, 34, 40, 43
Sec 6.3: $9,12,18,31,38,46$
Sec 6.4: 8, 18, 20, 25, 31, 33
Do the following problems.
Exercise 1. Determine the volume of the solid obtained by rotating the region bounded by $y=x^{2}-x+5$, $x=2, x=5$, and the $x$-axis about the

1. $x$-axis.
2. $y$-axis.

Exercise 2. Find the centroid of the bounded region determined by the curves $y=25-x^{2}, y=0$
Exercise 3. The base of a solid is the region bounded by the equilateral triangle of side length a with one vertex at the origin and altitude along the positive $x$-axis. Find the volume of the solid given that cross-sections perpendicular to the $x$-axis are squares with one side on the base of the solid.

