MECH 105: Homework 19

The force on a sailboat mast can be represented by the following function:

$$F = \int_0^H 200(\frac{z}{5+z})e^{-2z/H}dz$$

where z = the elevation above the deck and H = the height of the mast.

Compute F for the case where $H = 30$ using:

1. Romberg integration to a tolerance of $\epsilon_s = 0.05\%$
2. the two-point Gauss-Legendre formula
3. the MATLAB integral function