Homework #6: Due October 21

**Problem 1:** For the beam shown below calculate the shear and bending moment functions. Use the coordinates shown. Plot the resulting shear and moment diagrams. Check that the moment, shear and load functions are consistent with respect to their derivatives and values. Use the following numerical values: \( l = 10 \text{ ft}, \ w = 0.15 \text{ k/ft}, \ p = 1.5\text{k} \).

![Beam with loads](image1.png)

**Problem 2:** For the beam shown below calculate the shear and bending moment functions. Use the coordinates shown. Plot the resulting shear and moment diagrams. Check that the moment, shear and load functions are consistent with respect to their derivatives and values. Use the following numerical values: \( w = 0.2 \text{ k/ft}, \ l = 10 \text{ ft}, \ m = 2.5\text{kft} \).

![Beam with moments](image2.png)

**Problem 3:** Hibbeler 4-42. Use coordinates \( x_1 \) and \( x_2 \) that have their origin at A and are positive to the right.

**Problem 4:** Hibbeler 4-35