Shear force/bending moment diagrams for indeterminate beams

Example 1

Consider the propped-cantilevered beam shown, with the roller support at location C along the beam. The beam is made up of a material having a Young's modulus of E, with the beam having a (b x b) square cross-section, where $a = 10b$. A constant line lone p_0 acts along the length of the beam, and a concentrated load P acts at end H, where $P = 2p_0a$.

a) Using either integration techniques, Castigliano's theorem or superposition, determine the support reactions on the beam at B, C and H. If Castigliano's theorem is used, consider the contributions from shear to be negligible.
b) Draw the shear force V(x) and bending moment M(x) diagrams in the plot axes provided.
c) Determine the maximum flexural stress in the beam.

Leave your answers in terms of, at most: a, E and p_0.