

Quiz 1 Review (not graded)**Problem 1:**

Consider a simply supported elastic beam of length l and moment of inertia I . The beam is loaded by a concentrated load located at a distance a from the left support. Determine the following:

- a) The deflected shape of the beam
- b) The location of maximum deflection
- c) The stiffness of the beam, which is the relationship between load and the deflection under the load.
- d) The profile of shear stresses and bending moment
- e) Check for the continuity condition under the point load and count the number of unknown integration constants and boundary/continuity conditions
- f) Find the location and magnitude maximum stress in the beam.

Problem 2:

Change the boundary conditions from simply supported to clamped at both ends and discuss how the solution method would change, in particular, would the number of integration constants and boundary/continuity conditions be the same as in Problem 1

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