



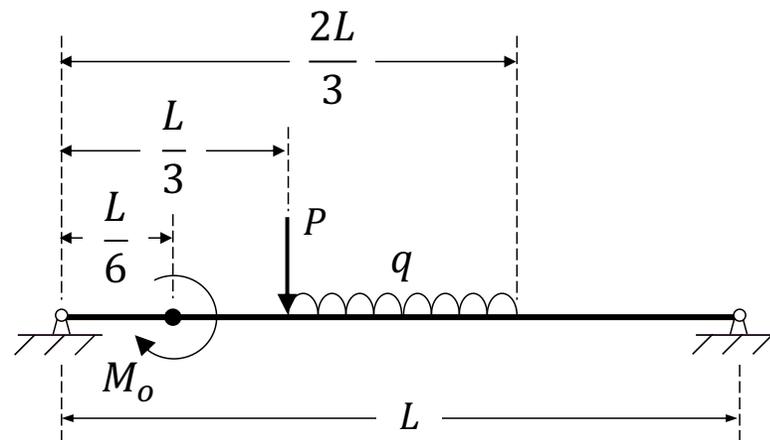
Deflection of Beams

Worked Example 2

Worked Example 2

Simply Supported Beam with Point Load, Discontinuous Uniformly Distributed Load & Point Bending Moment Problem

The beam shown below is the worked example from section 6 of the notes, and is a simply supported beam subjected to a point load, a point bending moment and a discontinuous uniformly distributed load.



$$\begin{aligned}L &= 0.75 \text{ m} \\M_o &= 3 \text{ kNm} \\P &= 2 \text{ kN} \\q &= 4 \text{ kN/m} \\E &= 200 \text{ GPa} \\D &= 50 \text{ mm}\end{aligned}$$

Problem

Use Macaulay's method to determine the slope and deflection of the beam at its centre position.

See video recording for solution