

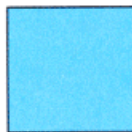
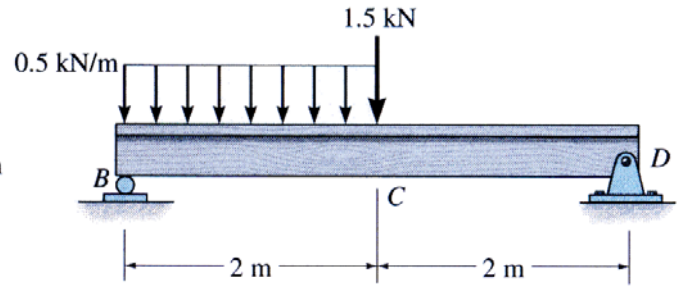
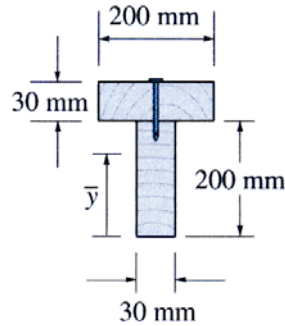
BE 110 - Mechanics of Materials - Fall 2003

Exam 4 – Combined Loading and Beam Deflection

Name:

Section: C

1. The wooden T-beam is made of two 200 mm x 30 mm boards. Determine the state of stress at the intersection of the flange and web at point C. Sketch the state of stress on the element provided below.



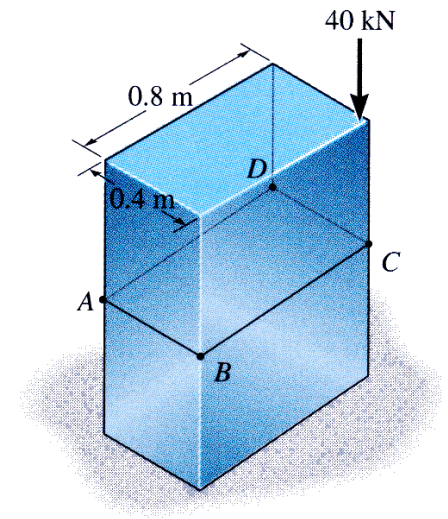
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2. The rectangular block is subjected to a vertical force of 40 kN, which is applied to its corner. Determine the state of stress acting at point A.

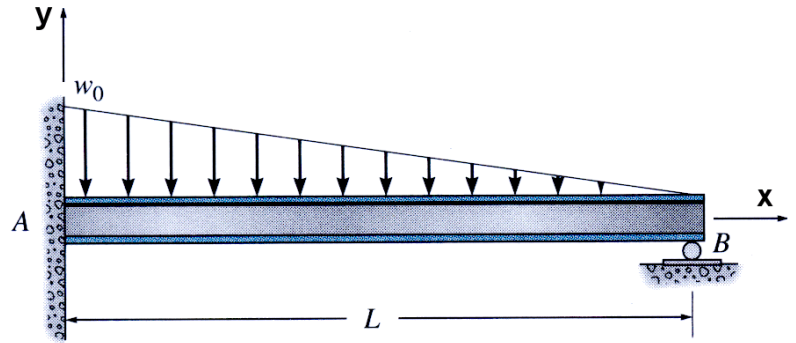


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3. Determine the reactions at the supports A and B.



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4. Determine the deflection at C of the beam shown. $EI = 5 \times 10^9 \text{ lb-in}^2$.

