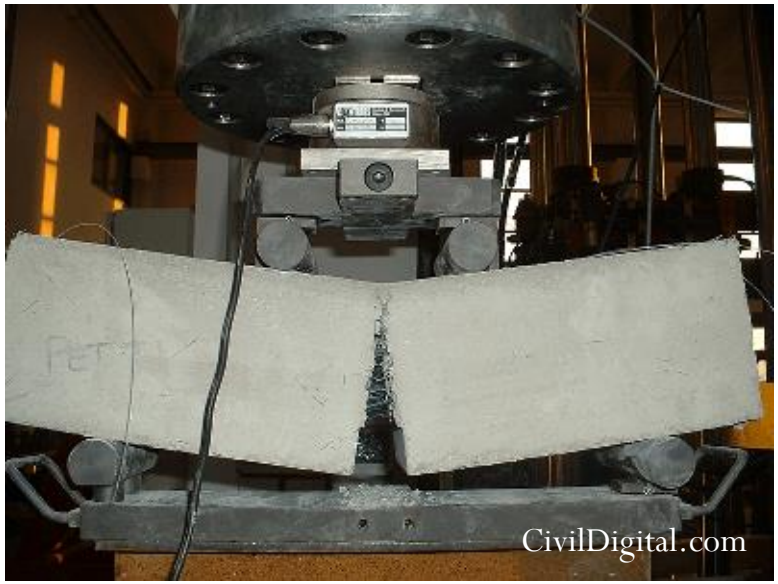
Announcements

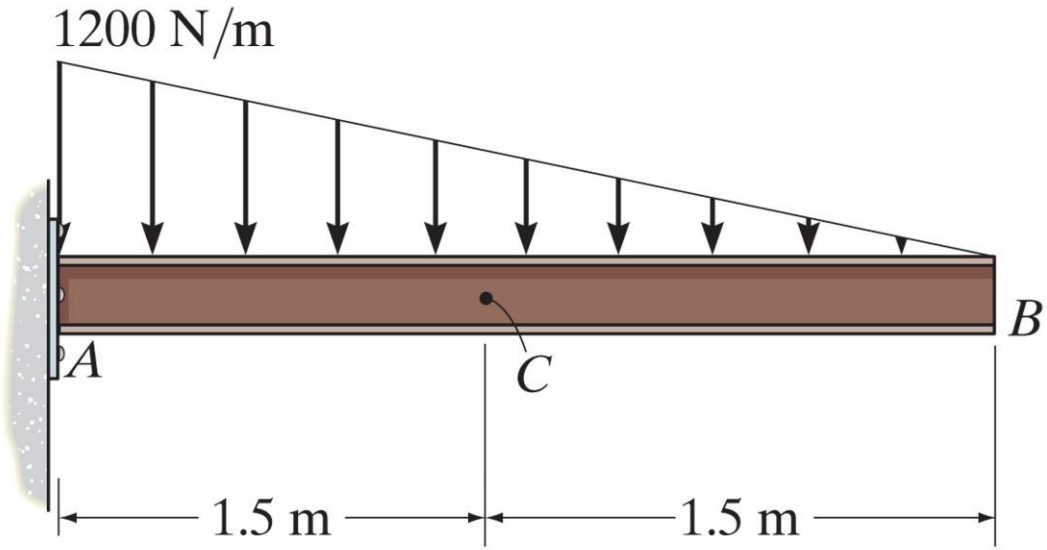
- In-class Written Quiz 4 (No CBTF) – Friday, October 26
  - 50 minutes: arrive early – we will start on time!
  - Must attend registered lecture section.
  - Bring student ID card.
  - Closed book, closed notes. Calculators allowed.
  - DRES accommodations must be made with DRES office before Wednesday (10/24), schedule the quiz for Friday (10/26) afternoon.
  - Conflict quiz must be scheduled before Wednesday (10/24) upon excused absence request approval.

❑ Upcoming deadlines:

- Tuesday (10/23)
  - PL HW

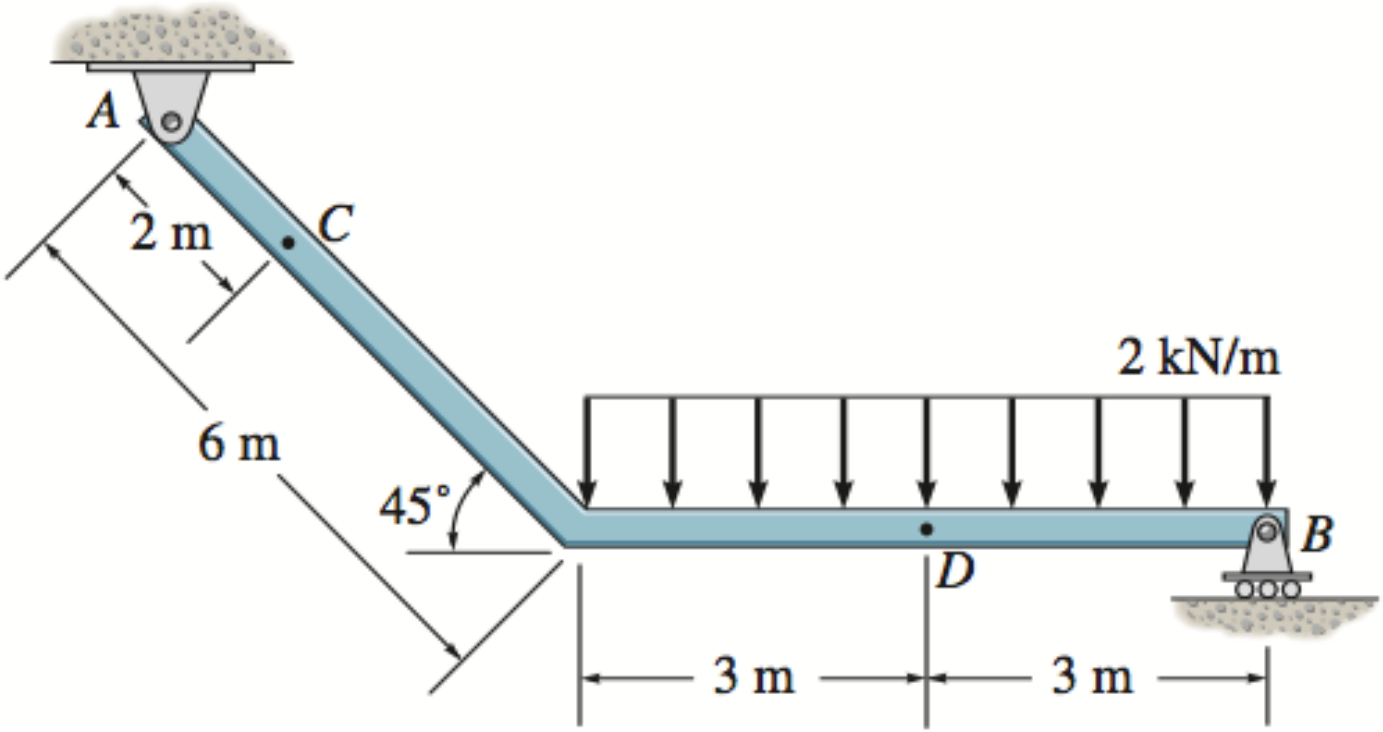
Recap: Internal Forces and Moment





Determine the normal force, shear force, and bending moment at *C* of the beam.

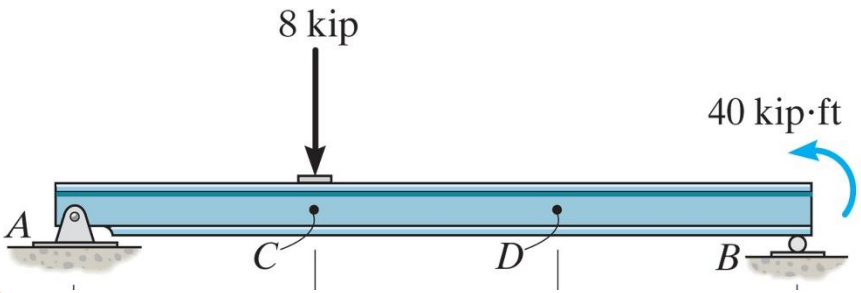
Determine the normal force, shear force, and bending moment at C.



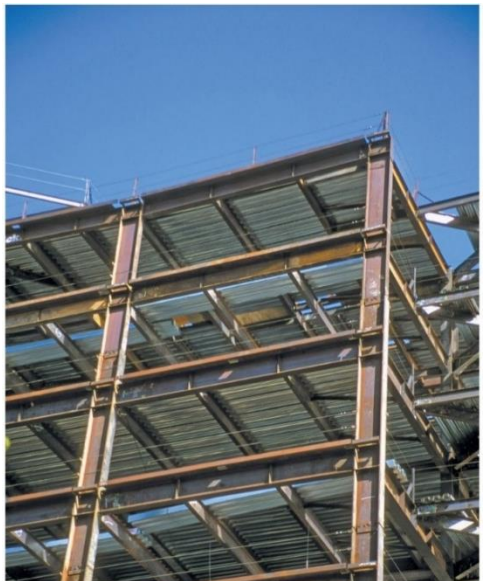
Shear and Moment Diagram

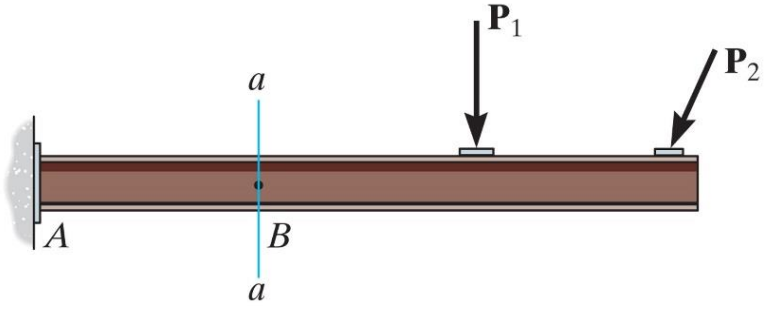
Beams: structural members designed to support loadings applied perpendicular to their axes.

Simply supported beam



Cantilever beam



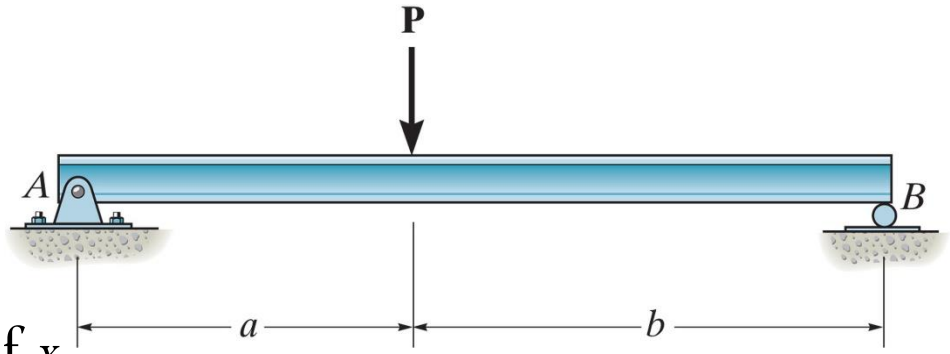


Shear and Moment Diagram

Goal: provide detailed knowledge of the variations of internal loadings (V and M) throughout the beam

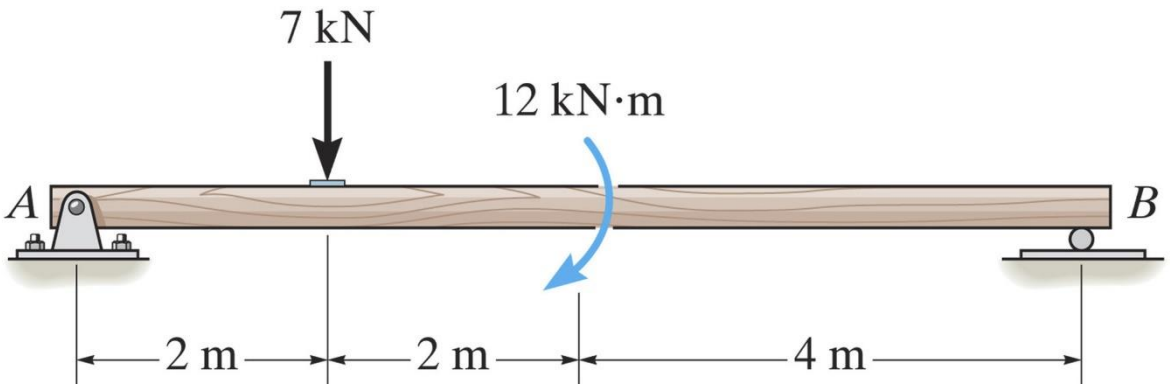
Procedure

1. Find support reactions (free-body diagram of entire structure)
2. Specify coordinates x
3. Divide the beam into regions
4. Draw FBD of a segment
5. Apply equations of equilibrium to derive V and M as functions of x



Shear and Moment Diagram

Draw the shear and moment diagrams for the beam.



Shear and Moment Diagram

Draw the shear and moment diagrams for the beam.