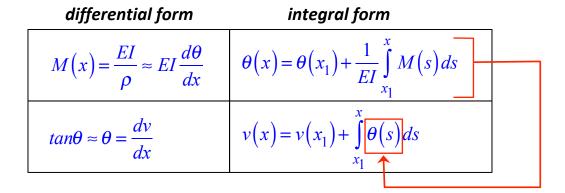
Summary: Beam deflection by integration (indeterminate)

FUNDAMENTAL EQUATIONS



METHOD

Draw FBD of entire structure and <u>write down equilibrium equations in terms of</u> reactions.

Divide beam into sections based on changes in supports or loadings.

For each section:

- \circ Make cut through section, and determine M(x).
- Integrate M(x)/EI to find $\theta(x)$.
- \circ Integrate $\theta(x)$ to find v(x).
- \circ Enforce boundary conditions on θ and ν .
- \circ Match θ and ν across boundaries of sections.
- Solve for unknown reactions using boundary conditions and equilibrium equations.

specific to indeterminate beams