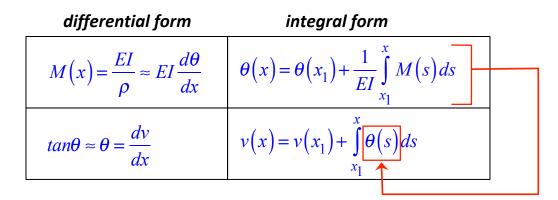
Summary: Beam deflection by integration (indeterminate)

FUNDAMENTAL EQUATIONS



METHOD

- Draw FBD of entire structure and <u>write down equilibrium equations in terms of reactions.</u>
- Divide beam into sections based on changes in supports or loadings.
- For each section:
 - \circ Make cut through section, and determine M(x).
 - \circ Integrate *M(x)/EI* to find $\theta(x)$.
 - \circ Integrate $\theta(x)$ to find v(x).
 - \circ Enforce boundary conditions on θ and v.
 - \circ Match θ and *v* across boundaries of sections.
- <u>Solve for unknown reactions using boundary conditions and equilibrium</u> <u>equations</u>.

specific to indeterminate beams