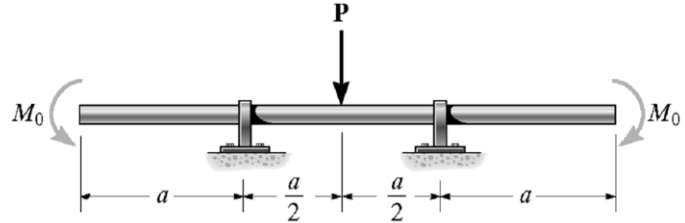


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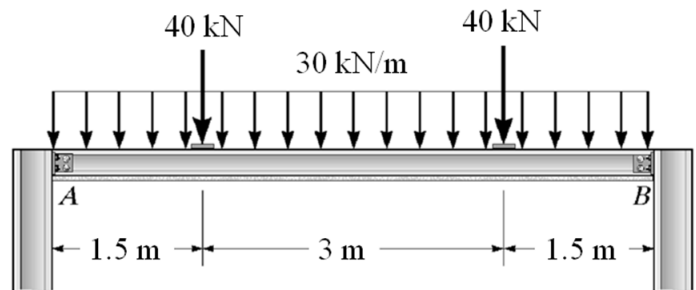
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M13: Bending Deflections by Superposition

1. Determine the moment M_0 in terms of the load P and dimension a so that the deflection at the center of the beam is zero. EI is constant. 【欲使图示梁中点处的挠度为零，试求弯矩 M_0 和荷载 P 以及尺寸 a 之间的关系。设弯曲刚度 EI 为常数。】



2. The maximum deflection of the simply supported beam shown is required not to exceed $1/360$ of the span length. Select the lightest-weight steel I -beam from appendix. Assume A a pin and B a roller support. $E = 200$ GPa. 【若要求图示简支梁的最大挠度不超过梁跨度的 $1/360$ ，试根据此刚度条件从附录表中选择重量最轻的工字钢。设弹性模量为 200 GPa。】

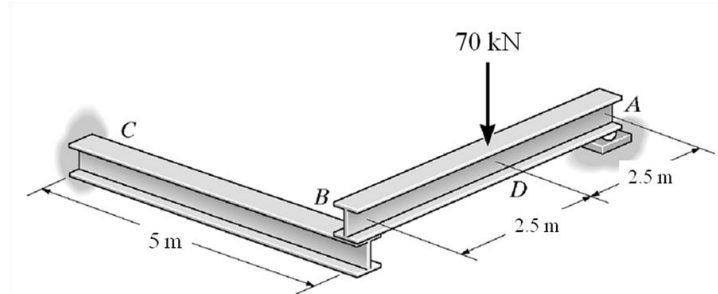


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M13: Bending Deflections by Superposition

3. The assembly consists of a cantilevered beam CB and a simply supported beam AB . Determine the displacement at the center D of beam AB . EI is constant. 【图示组合装置包含悬臂梁 CB 和简支梁 AB ，试求 AB 中点 D 处的挠度。设弯曲刚度 EI 为常数。】



4. Determine the vertical deflection and slope at the end A of the bracket. Assume that the bracket is fixed supported at its base, and neglect the axial deformation of segment AB . EI is constant. 【试求图示支架端部 A 的竖直挠度和转角，忽略 AB 部分的轴向变形，且弯曲刚度 EI 为常数。】

