ARCH 324 - Structures 2, Winter 2009

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WEIGHTLESS STICK

\[ \theta_1 = \frac{ML}{3} \]

\[ M = \frac{L}{2} \]

\[ \theta = \frac{ML}{6} \]

\[ \frac{M}{L} = \frac{48}{16} = 3 \]

\[ V \]

\[ H \]

SIMPLE BEAM

\[ \theta_2 = \frac{Wl^2}{24} = \frac{24(16)^2}{24} = 256 \]

EQUIATE \( \theta_1 \) & \( \theta_2 \)

\[ \theta_1 + \theta_2 = 0 = \frac{ML}{3} + 256 = 15.33 + 256 \]

\[ M = 48 \text{ kN-m} \]