ARCH 324 - Structures 2, Winter 2009

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<http://hdl.handle.net/2027.42/64938>
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WEIGHTLESS STICK

\[ \Theta = \frac{ML}{3} \quad \Theta = \frac{ML}{6} \]

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

SIMPLE BEAM

\[ \Theta_1 = \frac{Wl^2}{24} = \frac{24(16)^2}{24} = 256 \]

\[ \Theta_2 = \frac{24}{12} = 2 \]

EQUATE \( \Theta_s \)

\[ \Theta_1 + \Theta_2 = 0 \quad \Rightarrow \quad \frac{ML}{3} + 256 = M \cdot 33 + 256 \]

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