ARCH 324 - Structures 2, Winter 2009

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<http://hdl.handle.net/2027.42/64938>
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**Alternate Solution**

**Left End:**
\[ \frac{M_L}{3} + \frac{M_R}{2} = 2285.7 = 0 \]

\[ M_L = \frac{2285.7 - M_R(14)}{9.333} \]

\[ M_L = 244.9 - M_R(1.5) \]

\[ M_L = 53.9 \text{ k-ft} \]

\[ M_{LT} = 127.3 + 53.8 = 181.2 \text{ k-ft} \]

**Right End:**
\[ \frac{ML}{6} + \frac{MR^2}{2} - 2034.3 = 0 \]

\[ M_L = 435.92 - M_R(3) \]

\[ 244.9 - M_R(1.5) = 435.92 - M_R(3) \]

\[ M_R = 127.3 \text{ k-ft} \]

\[ M_{LT} = 127.3 + 53.8 = 181.2 \text{ k-ft} \]

\[ D = \frac{28160 - 4520}{28} = 594.3 \]

\[ \Theta_L = 2285.7 \text{ k} \]

\[ \Theta_R = 2034.3 \]

Get slope direction by inspection - like slope adds, opposite slope subtracts.