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ARCH 324 - Structures 2, Winter 2009

von Buelow, Peter

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\[
\delta_L + \delta_R = 0 \quad \text{or} \quad \delta_L = \delta_R
\]

\[
\delta_L = \frac{5wL^4}{384EI} + \frac{19PL^3}{384EI} = \frac{5(1)(60)^4 + 19(20)(60)^3}{384 EI}
\]

\[
\delta_L = 382500/\text{EI} = \delta_R = \frac{R_2L^3}{48 \text{EI}} = R_2\frac{4500}{\text{EI}}
\]

\[
R_2 = 85 \text{ k}
\]

\[
\Sigma F_v = 0 = R_1 + R_3 + 85 - 60 - 60 = 0
\]

\[
R_1 = R_3 = 17.5 \text{ k}
\]