ARCH 324 - Structures 2, Winter 2009

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

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

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

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

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

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