ARCH 324 - Structures 2, Winter 2009

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\[ \delta_L + \delta_R = 0 \quad \text{or} \quad \delta_L = \delta_R \]
\[ \delta_L = \frac{5wL^4}{384EI} + \frac{19PL^3}{384EI} = \frac{5(1)(60)^4 + 19(20)(60)^3}{384EI} \]
\[ \delta_L = 382500/EI = \delta_R = \frac{R_2L^3}{48EI} = R_24500/EI \]
\[ R_2 = 85\, \text{k} \]
\[ \Sigma F_v = 0 = R_1 + R_3 + 85 - 60 - 60 = 0 \]
\[ R_1 = R_3 = 17.5\, \text{k} \]