

Quiz 1 answer

$$I = 2(1.85) = 3.7 \text{ in}^4$$

Adding the weight of the channels, $2(5)/12 = 0.833 \text{ lbf/in}$,

$$\begin{aligned} y_A &= -\frac{wl^4}{8EI} - \frac{Fl^3}{3EI} = -\frac{10.833(48^4)}{8(30)(10^6)(3.7)} - \frac{220(48^3)}{3(30)(10^6)(3.7)} \\ &= -0.1378 \text{ in} \end{aligned}$$