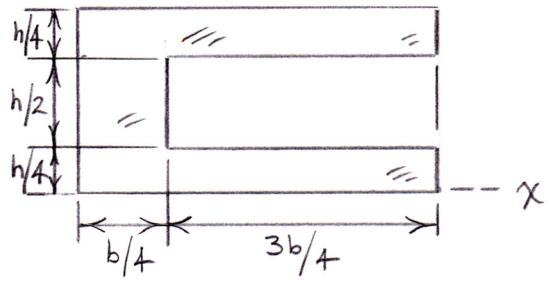
A/40



Full rectangle: $A = bh$, $I_y = \frac{1}{3}hb^3$

With cutout: $A = bh - \frac{3b}{4}\left(\frac{h}{2}\right) = \frac{5}{8}bh$

$$I_y = \frac{1}{3}hb^3 - \left[\frac{1}{12}\frac{h}{2}\left(\frac{3b}{4}\right)^3 + \frac{3}{8}bh\left(\frac{b}{4}+\frac{3b}{8}\right)^2\right]$$

$$= \frac{65}{384}hb^3$$

Percent reductions:

$$n_A = \frac{bh - \frac{5}{8}bh}{bh}(100\%) = \underline{37.5\%}$$

$$n_{I_y} = \frac{\frac{1}{3}hb^3 - \frac{65}{384}hb^3}{\frac{1}{3}hb^3} = \underline{49.2\%}$$