A member is subjected to factored loads as shown in Figure P6.8-3. Bending is about the strong axis, and $K_x = K_y = 1.0$. Use A572 Grade 50 steel and select a W10-shape.

Hints:

a. Use Tables 6-1 and 6-2 of the manual, and the following equations:

\[
bP_u + mM_{ux} + nM_{wy} \leq 1.0 \quad (1)
\]

\[
0.5bP_u + \frac{9}{8} \left( mM_{ux} + nM_{wy} \right) \leq 1.0 \quad (2)
\]

b. No need to check shear failure.