HOME ASSIGNMENT #8  (Part A)

Warm-Up Exercises

Determine the bending moments of inertia ($I_z$, $I_y$, $I_{yz}$) for the following cross-sections:

1. \[ \begin{array}{c}
\text{width: } 35 \text{ mm} \\
\text{height: } 5 \text{ mm} \\
\text{depth: } 50 \text{ mm}
\end{array} \]

2. \[ \begin{array}{c}
\text{width: } 35 \text{ mm} \\
\text{height: } 5 \text{ mm} \\
\text{depth: } 50 \text{ mm}
\end{array} \]

3. \[ \begin{array}{c}
\text{width: } 5 \text{ mm} \\
\text{height: } 35 \text{ mm} \\
\text{depth: } 50 \text{ mm}
\end{array} \]

4. \[ \begin{array}{c}
\text{width: } 5 \text{ mm} \\
\text{height: } 35 \text{ mm} \\
\text{depth: } 50 \text{ mm}
\end{array} \]
The following beam cross-sections are made from a combination of aluminum (\(E = 10\) Msi, \(\nu = 0.30\)) and steel (\(E = 30\) Msi, \(\nu = 0.30\)). Determine the bending stiffness, EI, about the y-axis for the following cases:

5.  

6.  

7.  

\[\text{Practice Problems}\]

8.  \(\text{in Part B}\)

\[\text{Application Tasks}\]

9.  \(\text{in Part B}\)