(30) 1. Determine the radius of gyration \( k_x \) for the column’s cross-sectional area.

\[ \theta = \tan^{-1}\left(\frac{4}{3}\right) \]
\[ a = 5 \text{ in} \]
\[ c = 10 \text{ in} \]

(35) 2. For the parallelogram, find \( I_x \), \( I_y \) and \( J_o \).

(35) 3. Determine the second moments of the shaded area shown about the \( x \) and \( y \) axes.