

1 .(2 points) The AIGA provides a number of standard graphics for signs in the US(www.aiga.org/symbol-signs). Download and print the male and female symbols. Find their centroids and moments of inertia with units of percentage of height and width, not in.or mm.

2 . (1 point) Consider a W-section (an I-shaped steel beam where the horizontal parts are the“flanges” and the vertical part is the “web”). If we assume a total height of 12 inches, a total width of 8 inches, and a uniform thickness of $1/2$ ”,

a. Find the centroid and moments of inertia assuming square corners.

b. Find the centroid and moments of inertia assuming some of the corners are rounded, similar to Fig A-3 on p. 789(Mechanics of materials Hibbeler 9th edition) . For the bottom of the top flange tips and the top of the bottom flange tips, assume a $1/4$ inch radius. For the interior corners where the web meets the flanges, assume a $3/8$ inch radius.

c. In your opinion, is the difference in the I_x values from a) and b) significant?