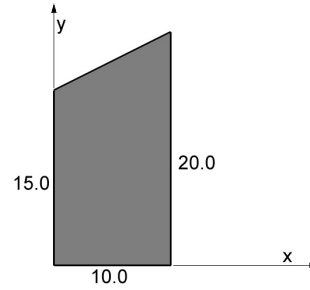
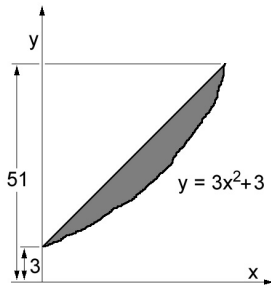


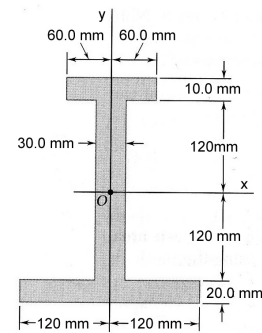
ES201 Problem set #12



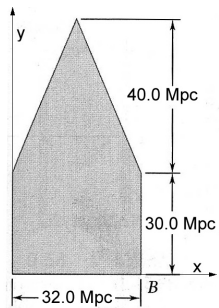
(1) Determine *by integration* I_x , I_y , J_{origin} for the shape given.



(2) Determine *by integration* I_x , I_y , J_{origin} for the shape given.



(3) Determine the 2^{nd} moment of area (I_x) and the radius of gyration of the shaded area with respect to the x axis.



(4) Determine the 2^{nd} moments of area with respect to the centroid (\bar{I}_x and \bar{I}_y) for the figure shown.