CH 3.II: CENTER-OF-MASS

1. A rod of length 1.7 m and mass 450 g has a variable linear mass density given by

\[ \rho_L(x) = Ax(1 - Cx) , \]

where \( A = 0.27 \text{ kg/m}^2 \), and \( x \) is the distance from the left end of the rod. The quantity \( C \) is a constant.

(a) Find the value of \( C \).

(b) Find \( x_{\text{com}} \).