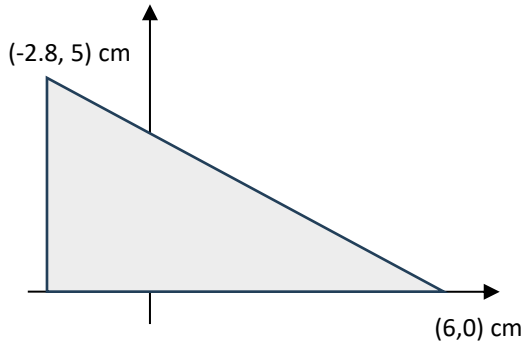
Name _____

PHY 201 CM#1 V2

Homework #1 – Centers of Mass by Integration

Find the location of the center of mass for each of the following objects, defined as the area between the curve and the horizontal axis. Each problem will be worth 20 points. No work – No credit. You may use your calculators to evaluate the functions but all steps leading up to the point of evaluation must be shown. ***Please keep in mind the rules for homework submission***. Do not do any work on this sheet. It will NOT be graded. Upload solutions, including cover sheet, into Blackboard.

1. For the solid, uniform mass distribution below, determine the total mass of the object and the center of mass.



Total Mass _____

Center of Mass _____

2. Locate the position of the center of mass of a non-uniform horizontal rod of length *L* if $\lambda = \lambda_0(3 + \frac{4x}{5L})$ when the left end of the rod is located at $x = -\frac{L}{4}$.

Total Mass _____

Center of Mass _____