

Math 3298 Worksheet 23: Triple integrals in spherical coordinates

Group members (2 to 4): _____

- (1) Find the center of mass of a hemispherical shell with outer radius R_2 and inner radius R_1 , centered at the origin (i.e. this shell is defined by $z \geq 0$, $x^2 + y^2 + z^2 \leq R_2^2$, and $x^2 + y^2 + z^2 \geq R_1^2$).

- (2) What are the z -coordinates of the center of mass for the extreme cases where (A) $R_1 = 0$, and (B) the limit as $R_1 \rightarrow R_2$?