

Math 3298 Worksheet 14: Triple integrals in spherical coordinates

Group members (1 to 3): _____

- (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 bounded 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) $R_1 = 0$
(B) the limit as $R_1 \rightarrow R_2$?