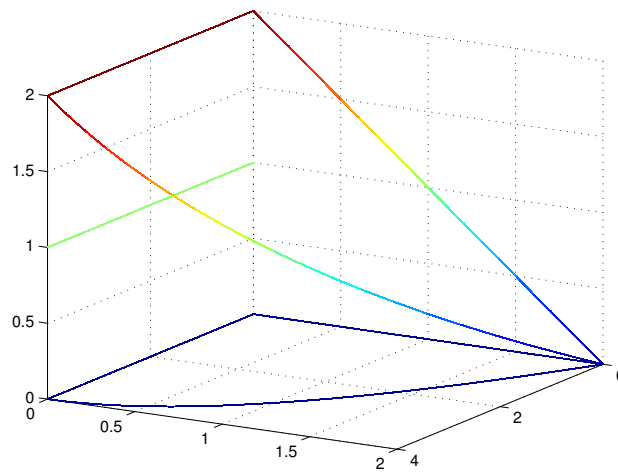Answers to Even Exercises, Homework Set 9

Section 12.7 # 2 −8

   # 26 $E = \{(x, y, z)|0 \le y \le 2, 0 \le z \le 2 - y, 0 \le x \le r - y^2\}$

   # 38 mass $= 1/24$, center of mass $= (1/5, 2/5, 1/5)$

Section 12.8 # 22 $\frac{8\sqrt{2}\pi}{3}$

   # 26 Place the center of the base at $(0, 0, 0)$, then the density is $\rho(x, y, z) = Kz$, and the mass $= \frac{\pi}{4}Ka^4$, and the center of mass is $(0, 0, \frac{8}{15}a)$