

- (1) We build a circular cone from typical office paper (80 grams per square meter). The base has radius 100mm and the height is 100mm.
 - (a) What is the mass of the cone?
 - (b) Find the center of mass of the cone.
 - (c) What is the moment of inertia for rotations about the axis of the cone.

- (2) Section 18.1: 10, 12, 20, 24 and 32.
- (3) What is the total flux of the vector field

$$\vec{F} = \begin{bmatrix} 3x - y \\ 2y \end{bmatrix}$$

outward through the circle $x^2 + y^2 = 1$. Compute twice: once as a line integral and once via Green's theorem.