Math 181
Fall, 2008

# Computer Lab #1

You are designing an auxiliary fuel tank that will fit under a helicopter's fuselage to extend its range. After some experimentation at your drawing board, you decide to shape the tank like the surface generated by revolving the curve $y = 1 - \frac{x^2}{16}, -4 \le x \le 4$, about the x-axis (dimensions in feet).

a) How many cubic feet of fuel will the tank hold (to the nearest cubic foot)?
b) A cubic foot holds 7.481 gallons. If the helicopter gets 2 miles to the gallon, how many additional miles will the helicopter be able to fly once the tank is installed (to the nearest mile)?

Do this using MAPLE – not by hand.

Due Wednesday, October 8