

## Calculus II - Fall 2013

### Quiz #3, October 31, 2013

In the following problems you are required to show all your work and provide the necessary explanations everywhere to get full credit.

A tank has the shape of an inverted circular cone with height 5 m and base radius 2 m. It is filled with water to a height of 4 m. Find the work required to empty the tank by pumping all of the water to the top of the tank. (The density of water is  $1000 \text{ kg/m}^3$ .)