Math 2300-013: Quiz 4

Name: _____ Score: _____

1. (1 point) Write down a formula for work in terms of force and distance.

2. (2 points) In a sentence or two, describe your plan for solving the problem below.

3. (7 points) Water is pumped from the top of a conical tank of height 4 meters and base radius 2 meters depicted below. How much work is required to empty the tank of water if the initial height of the water is 3 meters? You may assume that the mass of water on Earth is 1000 kilograms per cubic meter and that $g = 9.8\frac{\text{m}}{\text{sec}^2}$ is the acceleration due to gravity on Earth. (**Set up, but do not evaluate the integral.**)