Homework 7

Math 252

Due March 1st at 11:59 PM


Textbook Exercises

§2.5: 219, 225, 231, 235

§3.1: 11, 13, 15, 27, 33, 39, 43, 51, 60

Tank Problems

Our book sadly provides almost no good tank problems, so I've written two of my own. These are required along with the textbook exercises.

1. A tank in the shape of an inverted cone has height 4 meters and base radius 2 meters, as shown. It's filled with water (weight density 9800 $\frac{N}{m^3}$) up to a height of 3 meters. Find the work done by pumping the water out.
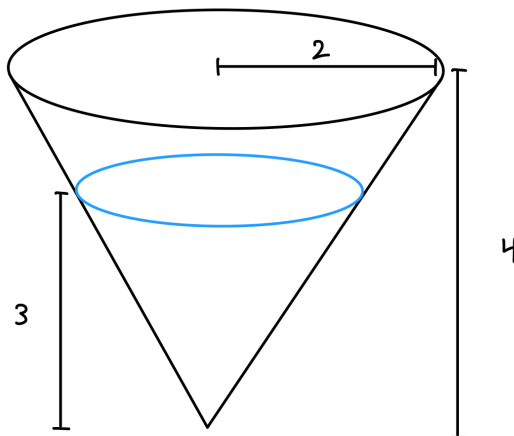
2. A tank in the shape of an triangular trough has width 2 meters, height 3 meters, and depth 10 meters, as shown. It's filled with water (weight density 9800 $\frac{N}{m^3}$) up to a height of 1 meter. Find the work done by pumping the water out.