

Homework 5
Calculus II

Due February 12, 2026
Prof. Nollet

Section 6.5 #3, 4, 7, 9, 11, 15, 17, 20, 21, 23

Hints:

- #3 Remember that x is measured from rest length of spring.
- #4 Probably best to use pounds and inches for units.
- #9 This is easier than Example 4 in the book and a lot like the chain example I did in class.
- #11 Much like the previous problem!
- #15 Measuring y from the top, how much does a slab of water of thickness Δy weigh? How far is it lifted to get to the top?
- #17 How would you modify Example 5 in the book?
- #20 How would you modify Example 5 in the book?
- #21 Measuring the height y from the bottom, what is the radius of the cross sectional circle? How much does a slab of oil of thickness Δy weigh? How far is it being lifted?
- #23 Measuring the height y from the top, what is the radius of the cross-sectional circle? How much does a slab of oil of thickness Δy weigh? How far is it being lifted?