

**Homework 4**  
**Calculus II**

**Due February 5, 2026**  
**Prof. Nollet**

Section 6.2. This homework is shorter than the last one, but some have several parts.

#7, 11, 12, 15, 17, 22, 23, 24 (set up only), 32 (set up only), 33.

Hints:

#7, 11, 12: standard shells.

#15, 17, 22: integrate with variable  $y$ , the shells are on their sides.

#23 Six parts and worth a lot of points. First three use  $x$  variable, last three use  $y$ .

#24 Similar to #23, but only SET UP integrals, practice at spotting radius and height of shells.

#32 Here you need to decide between washers and shells, endpoints of your integrals should all be from 0 to 4.

#43 Now  $x$  is a function of  $y$ , both are shell method problems.