Math 76 Assessment 2 §2.2-2.3 Volume

Things to remember:

1. The problem to complete is shown below. Write your name and solution on the next page where instructed.

2. Please make sure your full name is written neatly in the box.

3. Your score will be determined by **Mechanics** (2 points) and by **Content** (3 points).

4. The following rubric will be used for **Mechanics**:

Clear neat work, steps in order and easily followed, proper use of notation	2
Mostly clear work; minor errors in notation or skipped steps	1.5
Steps/handwriting hard to follow/read; major errors in notation	1
No discernible or relevant work, or work impossible to read/follow	0

5. You are not allowed to consult outside sources, including notes, books, the internet, or other people, while taking this assessment. Calculators are allowed only for basic numerical or scientific computations, not for graphing or algebra.

6. When you are finished, create a legible, well-lit **.pdf file** of your work and upload it to the appropriate assessment. *Page 2 only — do not scan this cover page.*

7. If you need more room, you may finish on a plain piece of paper or blank document. If your work is more than one page, it *must* be submitted as **one, multi-page .pdf file**. Other file formats will not be accepted.

Consider the region shown (next page). The segment from the point A to the point B is a straight line. The figure is not necessarily to scale.

Find the volume of the solid formed by rotating the region about the (vertical) line $x = 7$. Your answer should be expressed as an integral or sum of integrals in terms of $f(x)$.

Your solution should include:

- (0.5 point) Computation of the equation of the straight line;
- (0.5 point) Statement of strategies (e.g. disks/shells) and formula(s) used;
- (1 point) Explanation and picture of how strategies and formulas are used to determine volume;
- (1 point; 0 if no relevant work/explanation) Correct final answer.

Version B

Follow the directions on the previous page. The points labeled in the figure are as follows:

$A = (2, 0)$

$B = (5, 3)$