I was asked one fairly advanced question from all the way up in 5.2.

Chapter 4 Test isn't due until next Wednesday, so I wouldn't panic at not being in 5.2. But there's nothing wrong and a lot good about being in 5.2 before Thanksgiving. Decks are cleared for Final Exam prep, practicing old test questions and getting a feel for what kinds of questions I like to ask.

This is 5.2 #15. A very unusual sort of question. "Cross-sections are square."

$5.2 \#15$

$$y = 4 - x^2$$

$$x^2 = 4 - y$$
$$x = \pm \sqrt{4-y}$$

Click here for 5.2 Notes and Videos. #15 is in there.

$\text{base} \cdot dy \cdot \text{height}$
$2x \cdot 2x \cdot dy$

$4x^2\, dy$

$$\int_0^4 4(\sqrt{4-y})^2\, dy \;=\; 4\int_0^4 (4-y)\, dy = 4\left[\left(4y - \tfrac{1}{2}y^2\right)\right]\Big|_0^4$$

$$= 4\left[4(4) - \tfrac{1}{2}(4^2)\right]$$

$$= 4\left[16-8\right] = 4\left(8\right) = 32$$