Quiz #4
Tuesday, 14 July.

Available on Blackboard from 12:01 a.m. on Tuesday, 14 July.
Due on Blackboard by 11:59 p.m. on Tuesday, 14 July.
Solutions will be posted on Thursday, 16 July.

Scans of photos of handwritten work are entirely acceptable so long as they are legible and in some common format; solutions submitted as a single pdf are preferred, if you can manage it. If you can't submit your solutions via Blackboard's Assignments module for some reason, please email them to the instructor at: `sbilaniuk@trentu.ca`

Reminder: Per the course outline, *all work submitted for credit must be written up entirely by yourself, giving due credit to all relevant sources of help and information. For the quizzes, you are permitted to use your textbook and all other course material, but you may not use any other sources or aids, nor give or receive any help, except to ask the instructor to clarify questions and to use a calculator (any that you like).*

Consider the region between $y = \sqrt{1 - \dfrac{x^2}{4}}$ and $y = -\sqrt{1 - \dfrac{x^2}{4}}$, where $0 \le x \le 2$.

(This is the right half of the region enclosed by the ellipse $\dfrac{x^2}{4} + y^2 = 1$.) Revolve this region about the y-axis. The resulting solid of revolution is an "oblate spheroid" and looks like something like a squashed sphere.

1. Compute the volume of this oblate spheroid. *[5]*

2. Compute the surface area of this oblate spheroid. *[5]*