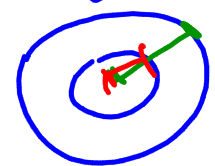
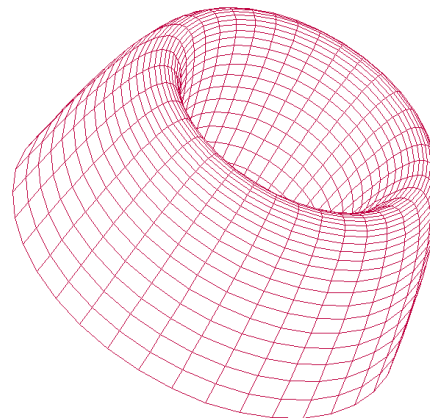
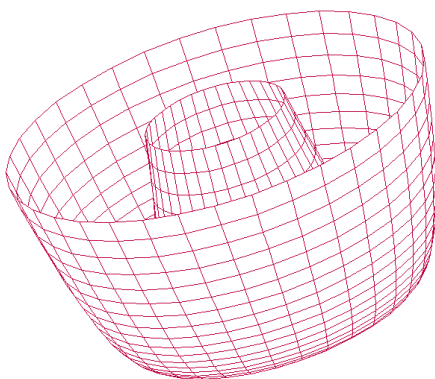
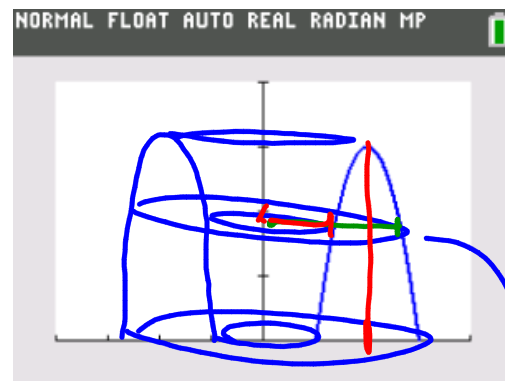
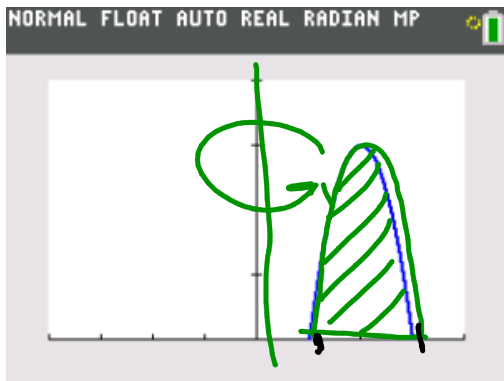


7-3 Day 3 Volumes : Cylindrical Shells Method

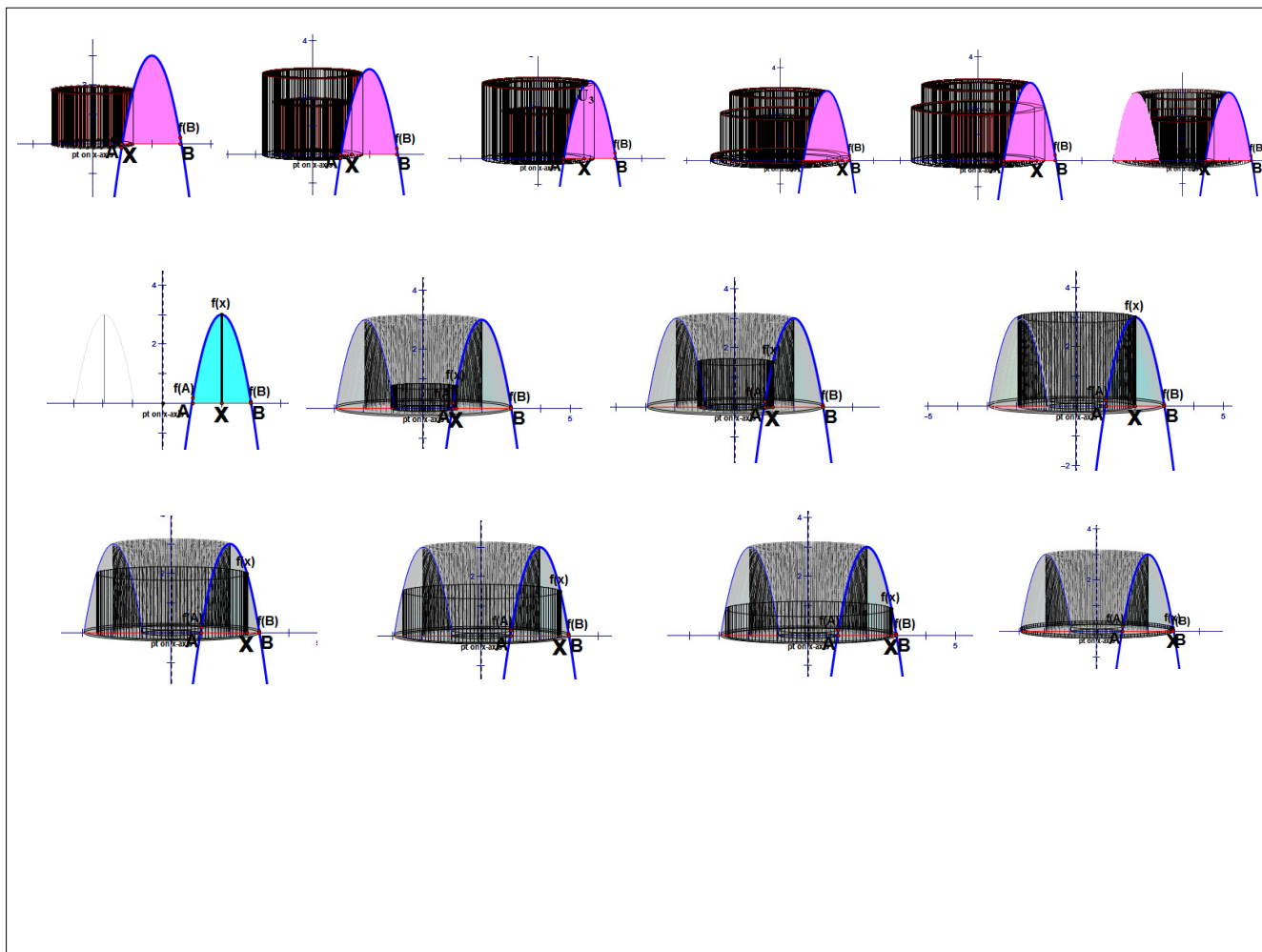
Learning Targets

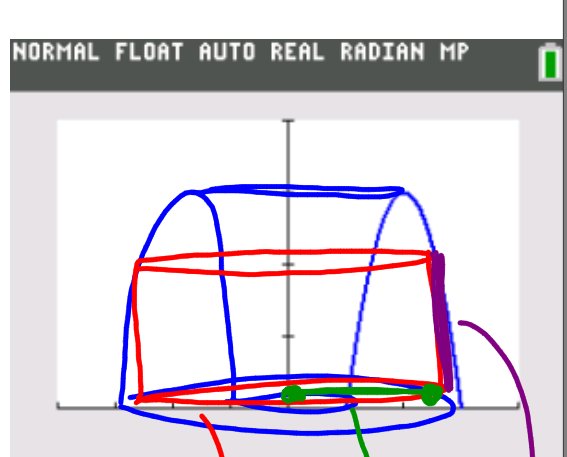
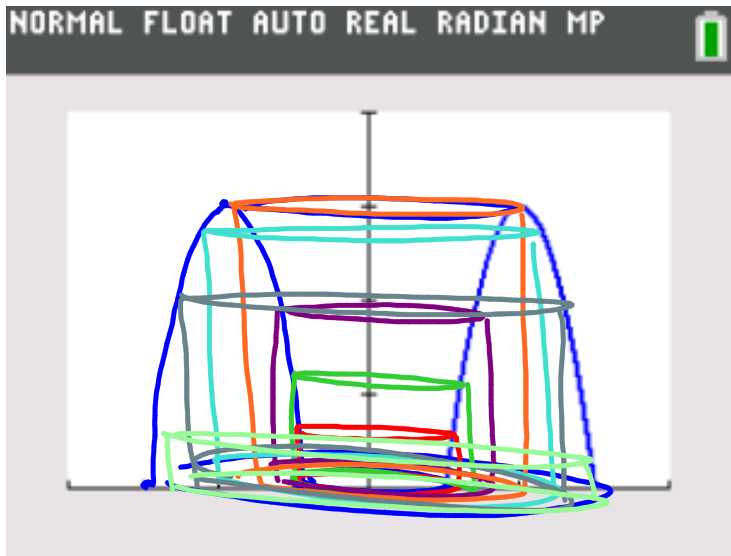
I find the volume of a solid that has been rotated around an axis using the cylindrical shells method.

Ex1. The region bounded by the curve $y = -3(x-2)^2 + 3$ and the x-axis is revolved around the y-axis. Find the volume.



$$A = \pi R^2 - \pi r^2$$





$A = \text{circum. height}$

$$A = 2\pi r h$$

$$A = 2\pi x \cdot [-3(x-2)^2 + 3]$$

$$V = \int_1^3 2\pi x [-3(x-2)^2 + 3] dx$$

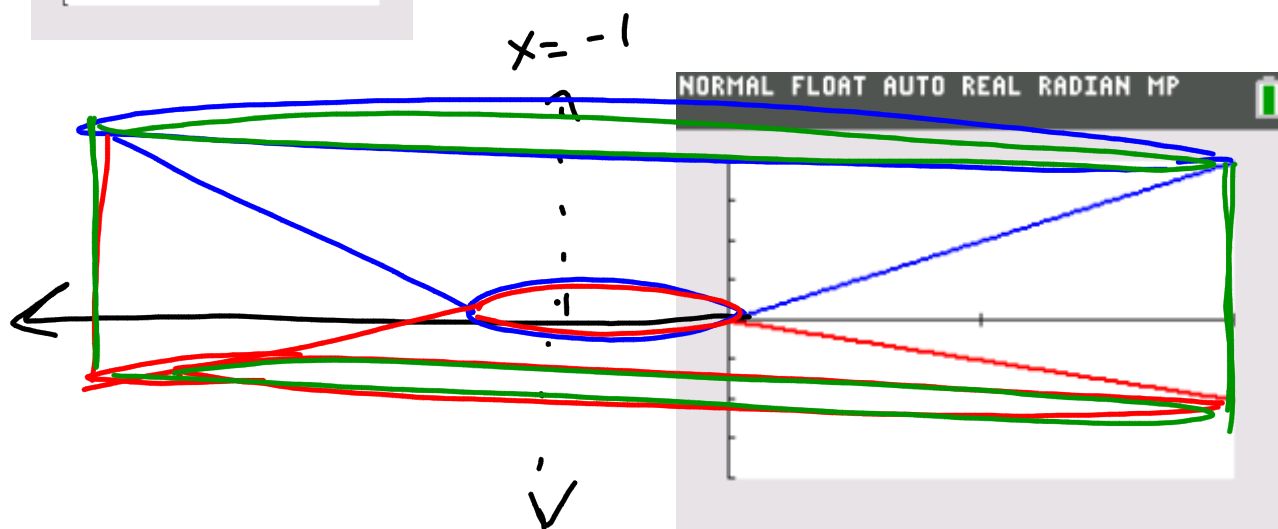
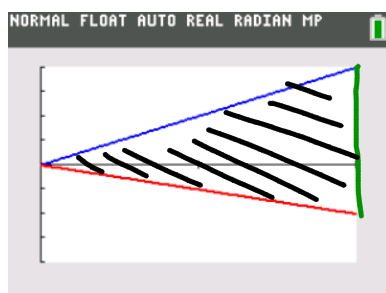
$$V \approx 50.265$$

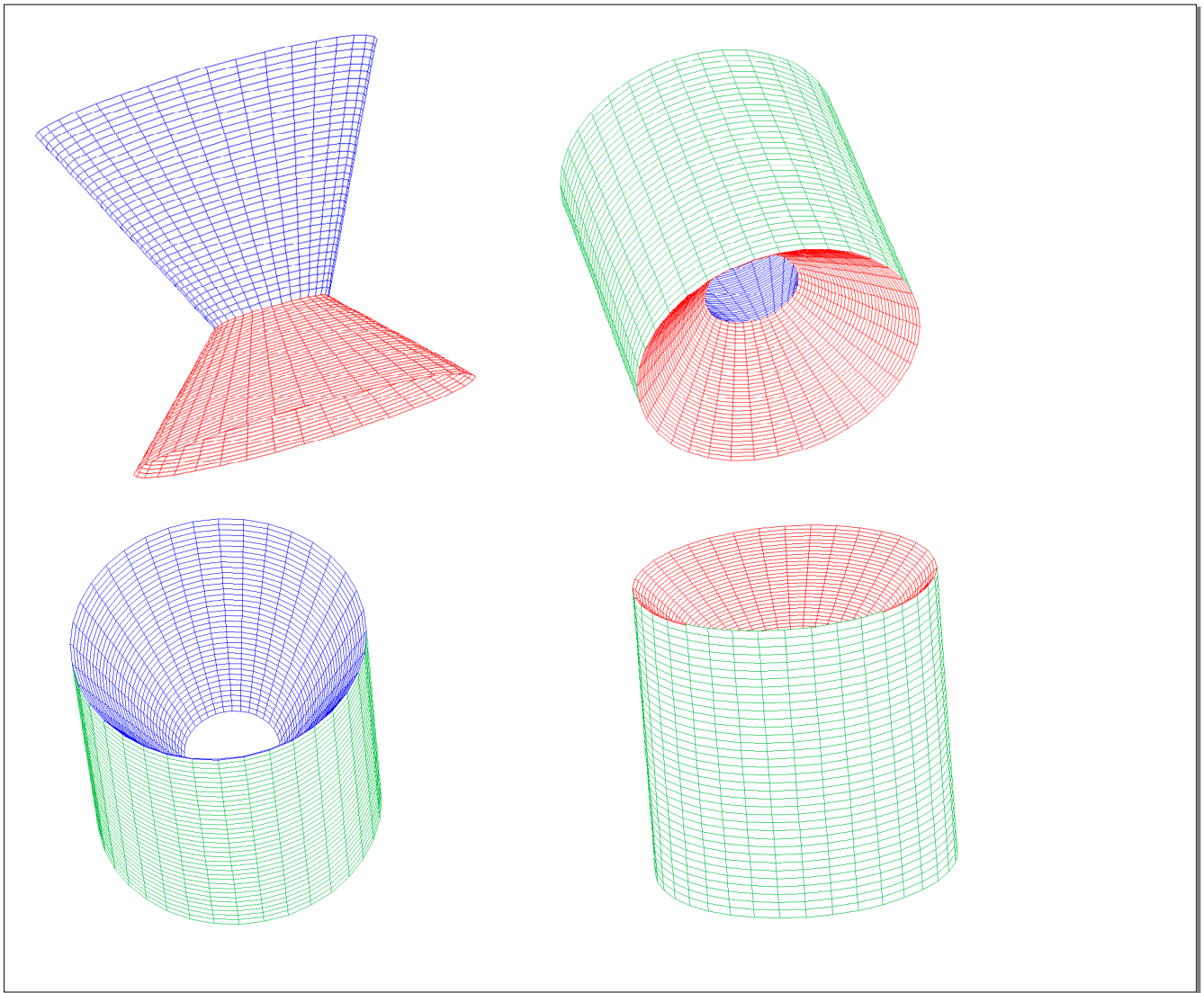
NORMAL FLOAT AUTO REAL RADIAN MP

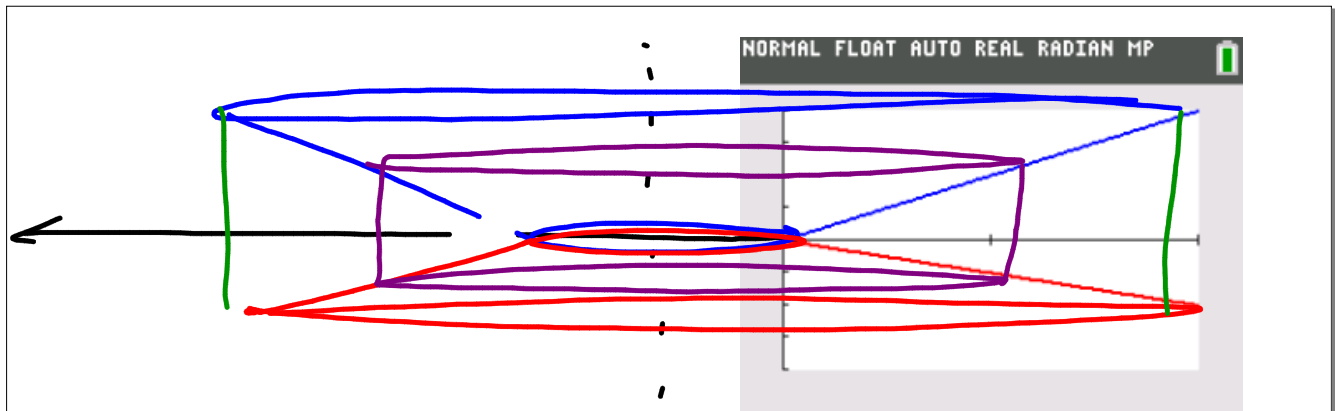
$$\int_1^3 (2\pi x * Y_1) dx$$

.....50.26548246

Ex2. The region bounded by the curves $y = 2x$, $y = -x$ and $x = 2$ is rotated around the line $x = -1$. Find the volume.







$r = x + 1$ $h = 2x + x$

$$\int_0^2 2\pi(x+1)(3x) dx$$

Homework

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