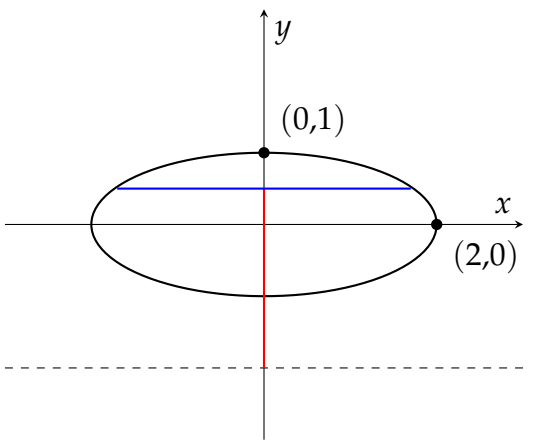
Name:_____

Eagle ID (last four digits only):_____

1. Consider the ellipse E defined by the set of all points (x, y) in the plane such that $\frac{x^2}{4} + y^2 = 1$. By rotating E around the $y = -2$ line, we obtain an ellipsoid $\widetilde{E}$. Find the volume of $\widetilde{E}$ using the shell method.



2. Find the length of the curve shown below, which is the graph of the function $y = \left(1 - x^{2/3}\right)^{3/2}$ where $0 \leq x \leq 1$.