1. [11 points] Consider the shape shown to the right. The function shown as a dark curve is $f(x)$. The points on the curve are the points $(0,f(0))$, $(0.5,f(0.5))$, $(1,f(1))$, $(1.5,f(1.5))$, and $(2,f(2))$.

(a) [4 points of 11] Draw a slice, below, that you might use to find the total volume enclosed by the shape if you were to be doing this by integration. Label in your figure $x$, $f(x)$, $\Delta x$, and any other relevant quantities.

(b) [2 points of 11] Write an integral giving the volume of the shape.

(c) [5 points of 11] If the points shown in the figure are, in order from left to right, $(0,0)$, $(0.5,0.875)$, $(1,1)$, $(1.5,1.125)$ and $(2,2)$, estimate the volume using the trapezoid method.