To insure proper credit, please draw the region and the strips and identify all variables like $R, h, dx, dy$

1. Consider the region bounded by the curves $y = 4 - x^2$ and $3x + y = 0$

   (a) Find the area by horizontal strips only.

   (b) Find the area by vertical strips only.

2. Consider the solid generated by revolving about the $Y$ axis the region bounded by the graphs of $y = x, y = 0$, and $x = 2$ is described by

   (a) Find the volume by horizontal strips only.

   (b) Find the volume by vertical strips only.

3. The volume of the solid generated by revolving about the $Y$ axis the region bounded by the graphs of $y = x^3, x = 2$, and the $x$-axis.

4. The volume of the solid generated by revolving about the $X$ axis the region bounded by the graphs of $y = \sqrt{x}, x = 0$, and $y = 2$. 