1. Let $B$ be the region bounded by the graphs of $x = y^2$ and $x = 9$. Sketch $B$. For each part below, find the volume of the solid that has $B$ as its base if every cross section by a plane perpendicular to the $x$-axis is
   (a) a square.
   (b) a semicircle with diameter lying on $B$.
   (c) an equilateral triangle.

2. The region $R$ is bounded by the curves $y = x^3$, $y = 8$, $x = 0$. Sketch $R$. For the following rotational axes, set-up two integrals for the volume of the solid generated by revolving $R$ about the indicated axis, one representing the washer method and one the cylindrical shells method.
   (a) x-axis.  (b) y-axis.  (c) $y=-5$.  (d) $x=2$.  