RIDDLE   NAME_____
AP CALCULUS
SECTIONS 6-1 AND 6-2: Area and Volume

Answer each of the following showing all work.

1.   Find the area of the region bounded by the graphs of $y = x^2 + 2$, $y = -x$, $x = 0$, and $x = 1$.

2.   Find the area of the region between the graphs of $f(x) = 3x^3 - x^2 - 10x$ and $g(x) = -x^2 + 2x$.

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

4.   Find the volume of the solid generated by revolving about the y-axis the region bounded by $y^2 = 4x$, the y-axis, and the line $y = 2$.

5.   Find the volume of the solid generated by revolving about the x-axis the region bounded by $y = \sqrt{x}$, and $y = x^2$.