Problem 1

Set up the integrals (you don't need to compute/solve them, unless you want some practice...) that give the volume found by rotating the bounded region $y = x^2 + 1$ and $y = 2$ about the lines $y = 0$, $y = 3$ and $y = -2$.

Problem 2

Verify that the volume of a sphere with radius r is $\frac{4}{3}\pi r^3$ by rotating the appropriate curve about the x-axis.