Let $R$ be the region bounded by $y = x^2$ and $y = 18 - x^2$. Write down an integral, or sum of integrals, whose value is the volume obtained by revolving $R$ about the line $y = 25$.

**Do not evaluate your expression. This question is graded with no partial credit. Your answer is either right or wrong.**

integral (or sum of integrals): ________________________________
Let $\mathcal{R}$ be the region bounded by the curves $y = 0$, $x = 0$, $x = \sqrt{3}$, and $y = \frac{1}{\sqrt{x^2 + 1}}$. Find the volume of the solid obtained by revolving $\mathcal{R}$ about the $y$-axis.

volume: __________________________