1. [5pts] Let $R$ be the region between the curves $y = x^2$ and $y = \sqrt{x}$. Sketch $R$ and find $\iint_R (x+y)dA$.

2. [5pts] Use polar coordinates to evaluate $\int_{-2}^{2} \int_0^{\sqrt{4-x^2}} (x^2 + y^2)^{3/2} dy dx$. 