Q1) Sketch the curve with $r = \cos \frac{\theta}{2}, \ 0 \leq \theta \leq \pi$ by first sketching the graph of $r$ as a function of $\theta$ in Cartesian coordinates.

Q2) Find the exact length of the polar curve: $r = 7^\theta, \ 0 \leq \theta \leq 2\pi$. 