106. Let $X_1, ..., X_n$ be IID $N(\theta, a\theta^2)$, where a is a known constant and $\theta > 0$.

(a) Show that the parameter space does not contain a two-dimensional open set.

(b) Show that the statistic $T(\mathbf{X}) = (\bar{X}, S^2)$ is a sufficient statistic for θ, but the family of distributions is not complete.