Sample Questions: Censoring and Likelihood

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The Pareto density is $f(t|\theta) = \begin{cases} \frac{\theta}{t^{\theta+1}} & \text{for } t \geq 1 \\ 0 & \text{for } t < 1 \end{cases}$.

1. Let $(T_1, \delta_1), \ldots, (T_n, \delta_n)$ be a random sample from a Pareto distribution with right censoring. Find the maximum likelihood estimate of θ.

2. Find the standard error of $\widehat{\theta}$.