sample q#2

Rayleigh distribution has PDF

$$f(x) = \frac{x}{\theta} \, e^{-\frac{x^2}{2\theta}} \qquad x>0 \qquad 0<\theta<\infty$$

a) it can be shown that $E(x^2) = 2\theta$, use this information to construct unbiased estimator for θ

b) find maximum likelihood estimator θ. compare to a)