## Quiz Problem 7

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$\mathbf{Pro}$	h	lem	

Let X be a continuous random variable with probability density function given

$$f(x) = \begin{cases} \theta x^{\theta-1} & 0 \le x \le 1, \\ 0, & \text{else.} \end{cases}$$
 For what value of  $\theta$  is the population variance of  $X$  maximized?

