70. An insurance company sells an auto insurance policy that covers losses incurred by a policyholder, subject to a deductible of 100. Losses incurred follow an exponential distribution with mean 300.

What is the $95^{th}$ percentile of actual losses that exceed the deductible?

(A) 600
(B) 700
(C) 800
(D) 900
(E) 1000

71. The time, $T$, that a manufacturing system is out of operation has cumulative distribution function

$$F(t) = \begin{cases} 
1 - \left(\frac{2}{t}\right)^2 & \text{for } t > 2 \\
0 & \text{otherwise.}
\end{cases}$$

The resulting cost to the company is $Y = T^2$.

Determine the density function of $Y$, for $y > 4$. 