

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 $y > 4$.

- (A) $\frac{4}{y^2}$
- (B) $\frac{8}{y^{3/2}}$
- (C) $\frac{8}{y^3}$
- (D) $\frac{16}{y}$
- (E) $\frac{1024}{y^5}$