Table 17.4. *Exponential and Weibull Distributions: pdf, cdf, Survivor Function, Hazard, Cumulative Hazard, Mean, and Variance*

Function	**Exponential**	**Weibull**
$f(t)$	$\gamma \exp(-\gamma t)$	$\gamma \alpha t^{\alpha-1} \exp(-\gamma t^{\alpha})$
$F(t)$	$1 - \exp(-\gamma t)$	$1 - \exp(-\gamma t^{\alpha})$
$S(t)$	$\exp(-\gamma t)$	$\exp(-\gamma t^{\alpha})$
$\lambda(t)$	γ	$\gamma \alpha t^{\alpha-1}$
$\Lambda(t)$	γt	γt^{α}
$\mathrm{E}[T]$	γ^{-1}	$\gamma^{-1/\alpha} \Gamma(\alpha^{-1} + 1)$
$\mathrm{V}[T]$	γ^{-2}	$\gamma^{-2/\alpha} [\Gamma(2\alpha^{-1} + 1) - [\Gamma(\alpha^{-1} + 1)]^2]$
γ, α	$\gamma > 0$	$\gamma > 0, \alpha > 0$