

Chapter III-12 — Statistics

StatsInvFriedmanCDF	StatsInvPoissonCDF	StatsInvWeibullCDF
StatsInvGammaCDF	StatsInvPowerCDF	
StatsInvGeometricCDF	StatsInvQCDF	

General Purpose Statistics Operations and Functions

This group includes operations and functions that existed before IGOR Pro 6.0 and some general purpose operations and functions that do not belong to the main groups listed.

binomial	Sort	StatsTrimmedMean
binomialln	StatsCircularMoments	StudentA
erf	StatsCorrelation	StudentT
erfc	StatsMedian	WaveStats
inverseErf	StatsQuantiles	StatsPermute
inverseErfc	StatsResample	

Hazard and Survival Functions

Igor does not provide built-in functions to calculate the Survival or Hazard functions. They can be calculated easily from the **Probability Distribution Functions** on page III-391 and **Cumulative Distribution Functions** on page III-390.

In the following, the cumulative distribution functions are denoted by $F(x)$ and the probability distribution functions are denoted by $p(x)$.

The Survival Function $S(x)$ is given by

$$S(x) = 1 - F(x).$$

The Hazard function $h(x)$ is given by

$$h(x) = \frac{p(x)}{S(x)} = \frac{p(x)}{1 - F(x)}.$$

The cumulative hazard function $H(x)$ is

$$H(x) = \int_{-\infty}^x h(u) du,$$

$$H(x) = -\ln[1 - F(x)].$$

Inverse Survival Function $Z(a)$ is

$$Z(\alpha) = G(1 - \alpha),$$

where $G()$ is the inverse CDF (see **Inverse Cumulative Distribution Functions** on page III-391).