

STATISTICAL COMPUTING

Cheat-Sheet for R Probability Calculations

Purpose: This handout provides a list of the distributions we cover in class and how to use R with them. It is up to you to know which distribution is to be used and whether a probability, a cumulative probability, or a quantile is to be calculated, or a random number is to be drawn.

Name	Abbreviation	Parameter	Meaning	Hawkes/Class
Binomial	<code>binom</code>	<code>size</code>	Sample size	n
		<code>prob</code>	Success probability	p
Poisson	<code>pois</code>	<code>lambda</code>	Average rate	λ
Hypergeometric	<code>hyper</code>	<code>m</code>	Successes in population	= k
		<code>n</code>	Failures in population	= N - k
		<code>k</code>	Sample size	= n
<i>Geometric</i>	<code>geom</code>	<code>p</code>	Success probability	p
<i>Uniform</i>	<code>unif</code>	<code>min</code>	Minimum value	a
		<code>max</code>	Maximum value	b
<i>Exponential</i>	<code>exp</code>	<code>rate</code>	Average rate	λ
Normal	<code>norm</code>	<code>m</code>	Mean	μ
		<code>s</code>	Standard deviation	s

Remember the prefixes:

- **d** Calculates single probability
- **p** Calculates cumulative probability
- **q** Calculates quantile
- **r** Generates a random value