Here are the R commands to find probabilities and quantiles for the "named" distributions we will talk about in STAT 509.

DISCRETE MODELS: Binomial, geometric, negative binomial, hypergeometric, Poisson.

Model	$p_Y(y) = P(Y = y)$	$F_Y(y) = P(Y \leq y)$
$Y \sim b(n, p)$	`dbinom(y,n,p)`	`pbinom(y,n,p)`
$Y \sim \text{geom}(p)$	`dgeom(y-1,p)`	`pgeom(y-1,p)`
$Y \sim \text{nib}(r, p)$	`dnbinom(y-r,r,p)`	`pnbinom(y-r,r,p)`
$Y \sim \text{hyper}(N, n, r)$	`dhyper(y,r,N-r,n)`	`phyper(y,r,N-r,n)`
$Y \sim \text{Poisson}(\lambda)$	dpois(y,λ)	ppois(y,λ)

CONTINUOUS MODELS: Normal, exponential, gamma, χ^2, Weibull, lognormal, t, F.

Model	$F_Y(y) = P(Y \leq y)$	ϕ_p
$Y \sim \mathcal{N}(\mu, \sigma^2)$	pnorm(y,μ,σ)	qnorm(p,μ,σ)
$Y \sim \text{exponential}(\lambda)$	pexp(y,λ)	qexp(p,λ)
$Y \sim \text{gamma}(\alpha, \lambda)$	pgamma(y,α,λ)	qgamma(p,α,λ)
$Y \sim \chi^2(\nu)$	pchisq(y,ν)	qchisq(p,ν)
$Y \sim \text{Weibull}(\beta, \eta)$	pweibull(y,β,η)	qweibull(p,β,η)
$Y \sim \text{lognormal}(\mu, \sigma^2)$	plnorm(y,μ,σ)	qlnorm(p,μ,σ)
$Y \sim t(\nu)$	pt(y,ν)	qt(p,ν)
$Y \sim F(\nu_1, \nu_2)$	pf(y,ν_1,ν_2)	qf(p,ν_1,ν_2)

NOTE: In continuous distributions, the pth quantile ϕ_p satisfies

$$F_Y(\phi_p) = P(Y \leq \phi_p) = p.$$

Note that $0 < p < 1$.