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 $0 < p < 1$.