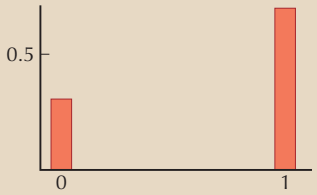
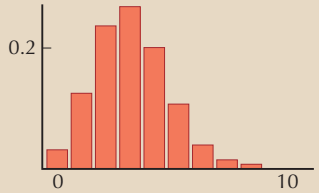
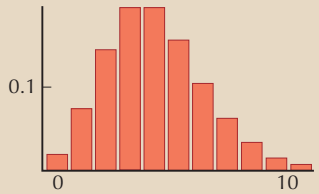
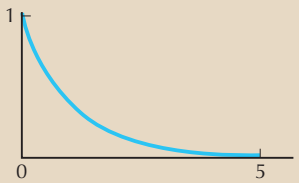
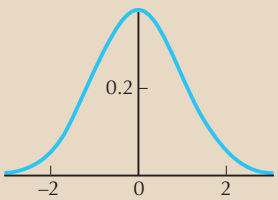
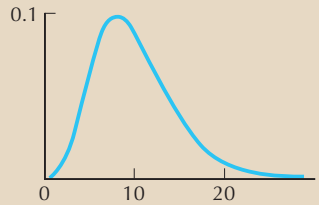
TABLE 28.1. Common probability distributions

Distribution		Mean	Variance	
Discrete				
Two-valued	$f_0 = q,\ f_1 = p$	p	pq	
Binomial	$\frac{n!}{i!(n-i)!}\, q^{n-i}p^{i}$	np	npq	
Poisson	$E^{-\lambda}\frac{\lambda i}{i!}$	λ	λ	
Continuous				
Exponential	$\lambda e^{-\lambda x}$	$\frac{1}{\lambda}$	$\frac{1}{\lambda^2}$	
Gaussian (or normal)	$\frac{1}{2\pi\sigma^2}\exp\left(-\frac{(x-x)2}{2\sigma^2}\right)$	$\overline{x}$	σ^2	
Chi-square	$\frac{1}{2\Gamma(n/2)}\left(\frac{x}{2}\right)^{(n/2)-1} e^{-x/2}$	n	$2n$	
Gamma	$\frac{1}{\beta\Gamma(\alpha)}\left(\frac{x}{\beta}\right)^{\alpha-1} e^{-x/\alpha\beta}$	$\alpha\beta$	$\alpha\beta^2$