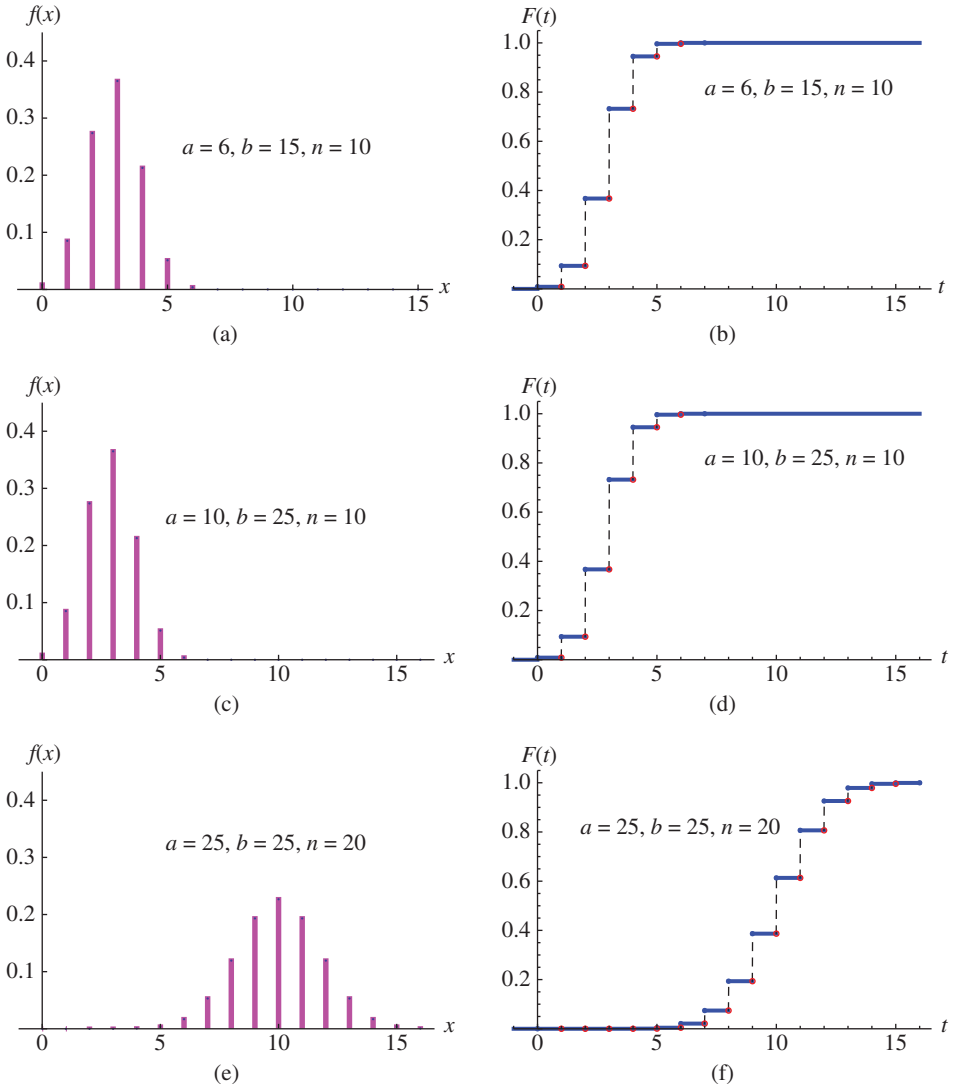

Figure 5.6 The probability function (left) and the cumulative distribution function (right) of the hypergeometric distribution for various choices of n, a, and b.

For the distribution function of the $h(n; a, b)$ distribution, we have

$$F(t) = \begin{cases} 0, & \text{if } t < \max\{0, n-b\}, \\ \displaystyle\sum_{x=\max\{0,n-b\}}^{[t]} \frac{\binom{a}{x}\binom{b}{n-x}}{\binom{a+b}{n}}, & \text{if } \max\{0, n-b\} \le t < \min\{n, a\}, \\ 1, & \text{if } t \ge \min\{n, a\}. \end{cases}$$

In Figure 5.6, we have plotted the probability function and the cumulative distribution function of the hypergeometric distribution, $h(n; a, b)$, for various choices of n, a, b.