Substituting for x and y in Eq. (7.5"), we obtain the probability that the class is i when feature x is observed, $P(c_i|x)$. To evaluate this probability, we need to know the probability of observing x when the class is c_i, $P(x|c_i)$. We get

$$P(c_i|x) = \frac{P(x|c_i)P(c_i)}{P(x)} \tag{7.6}$$