



2 4 5

$$P(Y = c_k | X = x) \quad \nearrow \quad \frac{P(X = x)}{P(X = x)}$$

$$= \frac{P(Y = c_k \cap X = x)}{P(X = x)}$$

$$\cancel{P(X = x)} P(Y = c_k)$$

$$= \frac{P(X = x | Y = c_k) P(Y = c_k)}{P(X = x)}$$

