$$x = \binom{5}{2} \cdots \Big/ \binom{20}{5}\binom{15}{5}$$

Alt $\quad \mathbb{P}(A|B) = 1 - \mathbb{P}(A^c|B)$

$$\mathbb{P}(A|B) = \frac{\mathbb{P}(A \cap B)}{\mathbb{P}(B)}$$

$$\mathbb{P}(A^c|B) = \frac{\mathbb{P}(A^c \cap B)}{\mathbb{P}(B)}$$

$$\mathbb{P}(A \cup A^c|B) = \frac{\mathbb{P}(A \cup A^c \cap B)}{\mathbb{P}(B)} =$$

$$= \frac{\mathbb{P}(A \cap B \cup A^c \cap B)}{\mathbb{P}(B)} = \mathbb{P}(A|B) + \mathbb{P}(A^c|B) = 1$$

(2.6)

Pólya-urna

$A_i = \{\text{táldim köre } i \text{ fából, ha } 4 \text{ fő van}\}$

$$\mathbb{P}(A_1) = \mathbb{P}(AEEE) = \frac{1}{2} \cdot \frac{1}{3} = \frac{1}{3}$$

$$\mathbb{P}(A_2) = \mathbb{P}(AEAE) + \mathbb{P}(AEEA) = \frac{1}{2} \cdot \frac{1}{3} + \frac{1}{2} \cdot \frac{1}{3} = \frac{1}{3}$$

$$\mathbb{P}(A_3) = \mathbb{P}(AEAA) = \frac{1}{2} \cdot \frac{2}{3} = \frac{1}{3}$$

(2.8.) $\quad A, B, C = \{A, B, C \text{ sütötte}\} \qquad \mathbb{P}(R|A,B,C) = (0.02, 0.03, 0.05)$

$R = \{\text{rossz a süti}\} \qquad \mathbb{P}(A,B,C) = (0.5, 0.3, 0.2)$

$$\mathbb{P}(A|R) = \frac{\mathbb{P}(A \cap R)}{\mathbb{P}(R)} = \frac{\mathbb{P}(R|A) \cdot \mathbb{P}(A)}{\mathbb{P}(R|A)\mathbb{P}(A) + \mathbb{P}(R|B)\mathbb{P}(B) + \mathbb{P}(R|C)\mathbb{P}(C)} =$$

$$= \frac{0.02 \cdot 0.5}{0.5 \cdot 0.2 + 0.03 \cdot 0.3 + 0.2 \cdot 0.5} = \frac{0.01}{1.13} = \frac{1}{113}$$

4