Predmet: Pravděpodobnost a statistika 1

Ukol: 1. Verze: 2.

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P(SD)

podle tabulky vsech jevu vydime, ze nastane v 3 ze 6^2 pripadu.

- (1,1) (1,2) (1,3) (1,4)(1,5)
- (2,1) (2,2) (2,3) (2,4)(2,5)(2,6)
- (3,1) (3,2)(3, 3)(3, 4)(3,5)(3,6)
- (4,1) (4,2)(4, 3)(4, 4)(4,5)(4,6)
- (5,1) (5,2)(5,3)(5,4)(5,5)(5,6)
- (6,1) (6,2)(6,3)(6,4)(6,5)(6,6)
- $P(SD) = \frac{3}{36}$

P(PS)

je to jako hazet jen jednou kostkou, takze pravdepodobnost je 1 ze 6 $P(PS) = \frac{1}{6}$

P(NS)

secteme obe pravdepodobnosti a pak odectene jejich prunik

$$P_1 + P_2 - (P_1 \cap P_2)$$

$$\frac{\frac{1}{6} + \frac{1}{6} - (\frac{1}{36})}{P(NS)} = \frac{11}{36}$$

$$P(NS) = \frac{11}{36}$$

P(SD|PS)

$$\begin{split} P(SD|PS) &= \frac{P(SD \cap PS)}{P(PS)} \\ P(SD|PS) &= \frac{\frac{1}{36}}{\frac{1}{6}} \\ P(SD|PS) &= \frac{1}{\underline{6}} \end{split}$$

$$P(SD|PS) = \frac{\frac{1}{36}}{\frac{1}{2}}$$

$$P(SD|PS) = \frac{1}{\underline{6}}^{6}$$

P(SD|NS)

$$P(SD|NS) = \frac{P(SD \cap NS)}{P(NS)}$$

$$P(SD|NS) = \frac{\frac{2}{310}}{\frac{11}{36}}$$

$$P(SD|NS) = \underbrace{\frac{2}{11}}_{\underline{11}}$$

$$P(SD|NS) = \frac{\frac{2}{36}}{\frac{11}{12}}$$

$$P(SD|NS) = \frac{\frac{36}{2}}{11}$$

P(PS|SD)

$$P(PS|SD) = \frac{P(PS \cap SD)}{P(SD)}$$

$$P(PS|SD) = \frac{\frac{1}{36}}{\frac{3}{36}}$$

$$P(PS|SD) = \underline{\frac{1}{12}}$$

$$P(PS|SD) = \frac{\frac{1}{36}}{\frac{3}{36}}$$

$$P(PS|SD) = \frac{1}{12}$$

P(PS|NS)

$$P(PS|NS) = \frac{P(PS \cap NS)}{P(NS)}$$

$$P(PS|NS) = \frac{\frac{1}{10}}{\frac{10}{30}}$$

$$P(PS|NS) = \frac{12}{22}$$

$$P(PS|NS) = \frac{\frac{1}{6}}{\frac{11}{11}}$$

$$P(PS|NS) = \frac{\overset{36}{12}}{22}$$

P(NS|SD)

$$P(NS|SD) = \frac{P(NS \cap SD)}{P(SD)}$$

$$P(NS|SD) = \frac{\frac{2}{36}}{\frac{3}{36}}$$

$$P(NS|SD) = \frac{2}{\frac{3}{20}}$$

$$P(NS|SD) = \frac{\frac{2}{36}}{3}$$

$$P(NS|SD) = \frac{2}{3}$$

P(NS|PS)

$$\begin{split} P(NS|PS) &= \frac{P(NS \cap PS)}{P(PS)} \\ P(NS|PS) &= \frac{\frac{1}{6}}{\frac{1}{6}} \\ P(NS|PS) &= \underline{\underline{1}} \end{split}$$

$$P(NS|PS) = \frac{\frac{1}{6}}{\frac{1}{a}}$$

$$P(NS|PS) = \frac{1}{1}$$