

$$1) p_A = 0.65 \quad p_B = 0.70$$

A - ŠT. ZADETKOV EKIPE A
B - ŠT. ZADETKOV EKIPE B

$$P[A=B] = P[(A=0 \cap B=0) \cup (A=1 \cap B=1) \cup (A=2 \cap B=2) \cup \dots] =$$

NE+DRUŽLIVOST

$$= P(A=0 \cap B=0) + P(A=1 \cap B=1) + \dots$$

$$P[A=0 \cap B=0] = (1-p_A)^5 \cdot (1-p_B)^5 = 1.276 \cdot 10^{-5}$$

$$P[A=1 \cap B=1] = \binom{5}{1} (1-p_A)^4 p_A \cdot \binom{5}{1} (1-p_B)^4 p_B = 0.00138$$

$$P[A=2 \cap B=2] = \binom{5}{2} (1-p_A)^3 p_A^2 \cdot \binom{5}{2} (1-p_B)^3 p_B^2 = 0.02397$$

$$P[A=3 \cap B=3] = \binom{5}{3} (1-p_A)^2 p_A^3 \cdot \binom{5}{3} (1-p_B)^2 p_B^3 = 0.10385$$

$$P[A=4 \cap B=4] = \binom{5}{4} (1-p_A) p_A^4 \cdot \binom{5}{4} (1-p_B) p_B^4 = 0.11251$$

$$P[A=5 \cap B=5] = p_A^5 \cdot p_B^5 = 0.019501$$

$$P[A=B] = 0.2612$$

DODATNA VALOGA:

$$P[\text{ZMAGA A}] = P[A > B] = P(A=1 \cap B=0) + P(A=2 \cap B=0) + \dots$$

$$+ \dots + P(A=5 \cap B=4)$$

$$P[\text{ZMAGA A}] = 0.3045$$

$$P[\text{ZMAGA A} \mid \text{Po prvih petih izvajanjih ni bilo zmagovalca}] =$$

$$= p_A (1-p_B) + p_A (1-p_B) (p_A p_B + (1-p_A)(1-p_B)) +$$

$$+ p_A (1-p_B) (p_A p_B + (1-p_A)(1-p_B))^2 +$$

$$+ p_A (1-p_B) (p_A p_B + (1-p_A)(1-p_B))^3 + \dots$$

$$P[.] = 0.4553$$