

$$\bar{\Omega} = \binom{52}{13} = \frac{52!}{13! * 39!} = \frac{40 * 41 * 42 * 43 * 44 * 45 * 46 * 47 * 48 * 49 * 50 * 51 * 52}{1 * 2 * 3 * 4 * 5 * 6 * 7 * 8 * 9 * 10 * 11 * 12 * 13}$$

$$= \frac{41 * 43 * 46 * 47 * 49 * 50 * 27 * 4}{1} = 41 * 43 * 46 * 47 * 49 * 50 * 27 * 4$$

$$\bar{A} = \binom{4}{2} \binom{48}{11} = \frac{4!}{2! * 2!} * \frac{48!}{11! * 37!} = 6 * \frac{38 * 39 * 40 * 41 * 42 * 43 * 44 * 45 * 46 * 47 * 48}{1 * 2 * 3 * 4 * 5 * 6 * 7 * 8 * 9 * 10 * 11}$$

$$= 6 * \frac{38 * 39 * 4 * 41 * 43 * 46 * 47}{1} = 6 * 38 * 39 * 4 * 41 * 43 * 46 * 47$$

$$P(A) = \frac{6 * 38 * 39 * 4 * 41 * 43 * 46 * 47}{41 * 43 * 46 * 47 * 49 * 50 * 27 * 4} = \frac{38 * 13}{49 * 25 * 3} = \frac{494}{3675}$$

Sprawdz, bo moze cos zle skrocilam

$$\bar{B} = \binom{4}{1} \binom{13}{13} = 4 * 1 = 4$$

$$P(B) = \frac{4}{41 * 43 * 46 * 47 * 49 * 50 * 27 * 4} = \frac{1}{41 * 43 * 46 * 47 * 49 * 50 * 27} = \frac{1}{\dots policz}$$

$$\bar{C} = \binom{13}{13} = 1$$

$$P(C) = \frac{1}{41 * 43 * 46 * 47 * 49 * 50 * 27 * 4} = \frac{1}{\dots policz}$$

$$\bar{\Omega} = 6^2 = 36$$

$$A = \{(1,6)(2,5)(3,4)(4,3)(5,2)(6,1)\}$$

$$\text{moc} A = 6$$

$$P(A) = 6/36 = 1/6$$

$$B = \{(1,5)(1,6)(2,5)(2,6)(3,5)(3,6)(4,5)(4,6)(5,1)(5,2)(5,3)(5,4)(5,5)(5,6)(6,1)(6,2)(6,3)(6,4)(6,5)(6,6)\}$$

$$\text{Moc } B = 20$$

$$P(B) = 20/36 = 5/9$$

