Zad. 1.

We know that: $P(A \cap B) = 1/4$

$P(A^c) = 1/3$

$P(B) = 1/2$

We want to find: $P(A \cup B)$

$$\left.\begin{array}{l} P(\Omega) = 1 \\ P(A^c) = 1/3 \end{array}\right\} \Rightarrow P(A) = 2/3$$

$$P(A \cup B) = P(A) + P(B) - P(A \cap B) = 2/3 + 1/2 - 1/4 = \underline{\underline{11/12}}$$

↑

Inclusion - Exclusion Principle