Question #13502

Consider a game with two players, Mary and Jerry. Mary has a red die and Jerry has a white die. They roll their dice and note the number on the upper face. Mary wins if her score is higher than Jerry's (note that Jerry winds if the scores are the same). If both players roll their dice once each what is the probability that Mary will win the game?

Solution. Present the result of their game as (M, J). In fact, we build probability space for this experiment $\Omega = \{(i,j)|i,j = 1,\ldots,6\}$. The event (Mary wins) is $A = \{(i,j)|i,j = 1,\ldots,6, i > j\})$. So, P(Mary wins)$= \dfrac{n(A)}{n(\Omega)} = \dfrac{5+4+3+2+1}{36} = \dfrac{15}{36} = \dfrac{5}{12}$.

Answer. 5/12.