[nex125] Know your odds!

In the year 1654 the Chevalier de Méré complained to Blaise Pascal that mathematics does not deal with questions of everyday life, which, for the Chevalier, meant gambling. De Méré did well financially by betting that he wins if at least one 6 shows in 4 rolls of one die (original version). His continued success had the consequence that nobody would bet against him any longer. Therefore, he offered the following modified version: he wins if at least one double-6 shows in 24 rolls of two dice. The Chevalier reasoned that in both versions the ratio between the number of throws and the number of possible outcomes is the same, 4/6 and 24/36, respectively, and a single outcome is desirable. Therefore, he concluded, the chances of winning should be the same as well. However, de Méré started to lose money heavily with the modifid version."My dear friend Blaise, please explain!"

Solution: