

**[nex13] Three-cornered duel.**

The Vicomte de Morcerf, the Baron Danglars and the Count of Monte Cristo (characters from the novel by Alexandre Dumas) meet at dawn in a Paris park to fight a three-cornered pistol duel. The Vicomte's chance of hitting the target is 30% and the Baron's chance 50%. The Count never misses. This information is known to all three. They are to fire at their choice of target in succession in the order Vicomte/Count/Baron, cyclically until only one man is left standing. Once a man has been hit he loses further turns and is no longer shot at.

The Vicomte begins. What should be his strategy? Calculate the Vicomte's survival probability (a) if he hits the Baron in his first shot, (b) if he misses in his first shot, and (c) if he hits the Count in his first shot.

**Solution:**