Abstract:

We discuss a random walk exhibited by a particle in a restricted two dimensional Euclidean space. The nature of the walk is one in which a particle moves in any four equally probable directions with given probabilities. We obtain the probability generating function of the system state and the transitional probability of the particle's movement after a given number of jumps. An application is found in a stochastic game involving the movement of "seed" in the draught game between two players. In this case, the walk becomes a classical ruin problem.