quals question 2015

From where he stands, one step toward the cliff would send the drunken man over the edge. He takes random steps, either toward or away from the cliff. At any step his probability of taking a step away is p and of a step toward the cliff is $1 - p$. What are his chances of escaping the cliff for:

1. $p = 1/3$

2. $p = 2/3$