**1. You are going to play 2 games of chess with an opponent whom you have never played**

**against before (for the sake of this problem). Your opponent is equally likely to be a**

**beginner, intermediate, or a master. Depending on**

**(a) What is your probability of winning the first game?**

**(b) Congratulations: you won the first game! Given this information, what is the probability**

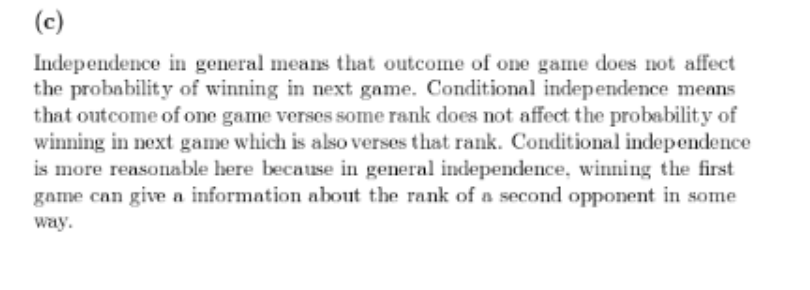
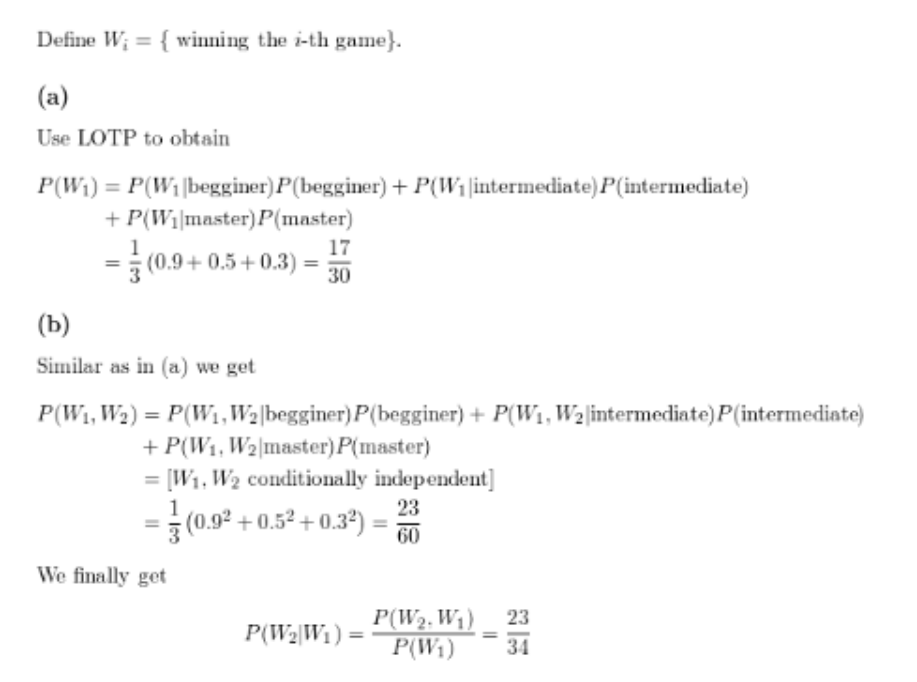
**that you will also win the second game**

**(c) Explain the distinction between assuming that the outcomes of the games are**

**independent and assuming that they are conditionally independent given the opponent’s**

**skill level. Which of these assumptions seems more reasonable, and why?**

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