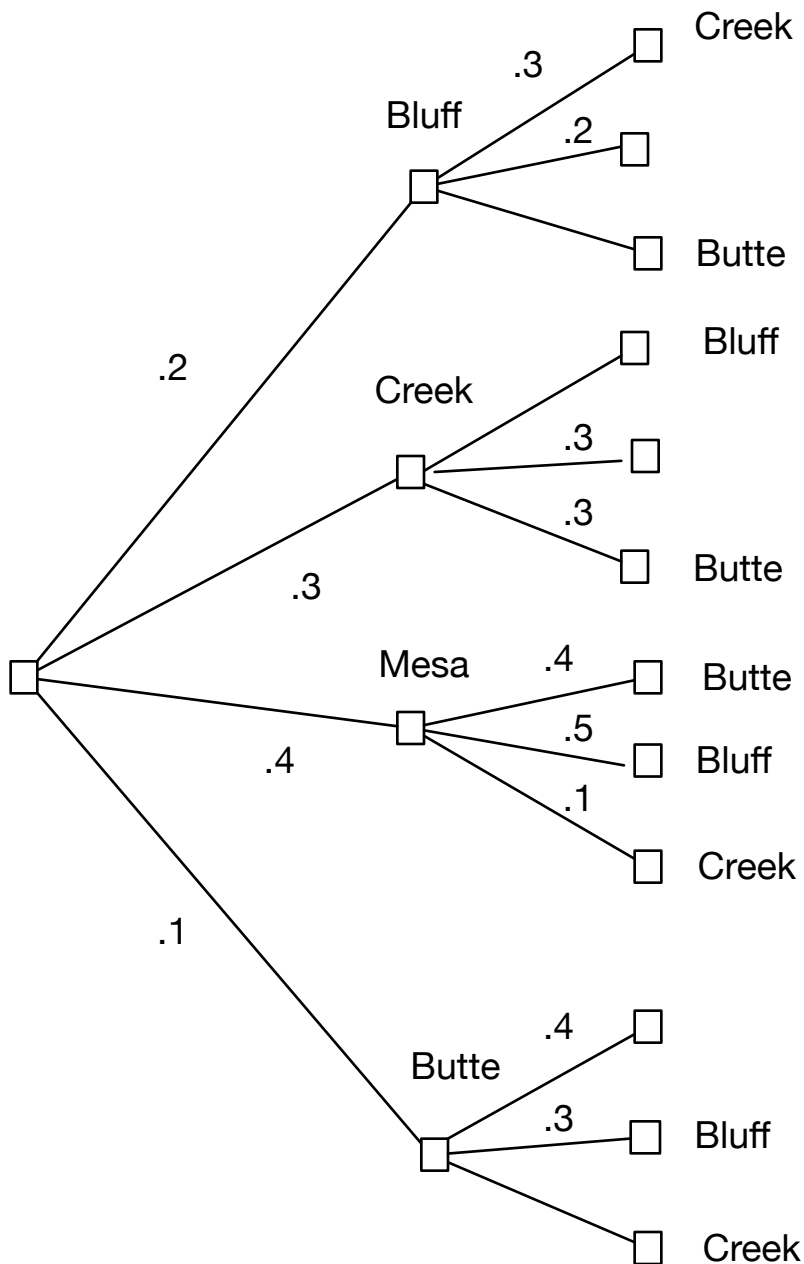


First place

Second place

**Practice question: 2301 fir**

Four teams are in a softball the end of the year, two tear will come in first and the los make a tree diagram to estir



1. How many different ways

2. How many different ways

3. What is  $p(\text{Creek comes in } 1^{\text{st}})$

3. What is  $p(\text{Bluff comes in } 1^{\text{st}})$

4. What is  $p(\text{Creek comes in } 2^{\text{nd}})$

5. Let Omega be the sample space of all possible outcomes. Each element in Omega is a pair of teams where the first team wins the final. What is the probability that team 2 loses the final. What is the probability that team 2 wins the final.

6. Your friend bets you that team 2 will come in second place. If your friend bets you 5 dollars. What is the expected value, and compute the probability that team 2 comes in second, as well as the probability that team 2 comes in first.

## Final exam

league. The teams are Bluff, Creek, Butte and Mesa. At the end of the season, the top two teams will face off in the final game. The winner of the final game will come in second. Based on last year's scores, you need to estimate the probability of the first and second place teams.

Are there two teams to pick a first place and second place team?

Are there two teams to pick two teams for the final?

1st | 2nd | Bluff comes in first)?

1st | 2nd | Creek wins the final) ?

1st | 2nd)? *Hint: law of total probability*

Let  $\Omega$  be the space of all possible winners and losers in the final.  
Let  $\omega = (\text{Team1}, \text{Team2})$  where team 1 wins the final and team 2 is the loser.  
What is the cardinality of  $\Omega$ ?

Mesa will come in first place and Butte will come in second place. If you are right, you pay them 100 dollars. Otherwise they pay you 100 dollars.  
What is the expected value of the bet? *Hint: consult the definition of expected value.  
Use the probability that Mesa comes in first and Butte comes in second, and the probability that this does NOT happen.*