10 Questions - Probability Summary for Finite Math

1. Brittani and Ramon are members of a 15-person ski club. If the president and treasurer are selected by lottery, what is the probability that Brittani will be president and Ramon will be treasurer? (A person cannot hold more than one office.)

2. If A and B are events in a sample space S and $P(A) = .3$, $P(B) = .4$, and $P(A \cap B) = .1$, find

(A) $P(A')$

(B) $P(A \cup B)$

3. A spinner lands on R with a probability of .3, on G with probability .5, and on B with probability .2. Find the probability for the spinner landing on either R or G.

Answer problems 4-7 using the following probability tree:

4. $P(A)$

5. $P(B|A)$

6. $P(B|A')$

7. $P(A \cap B)$

8. A card is drawn at random from a standard 52-card deck. If E is the event "The drawn card is red" and F is the event "The drawn card is an ace". Are events E and F independent?

9. A card is drawn at random from a standard 52-card deck. Event G is that the drawn card is red. Event H is the event that the drawn card is divisible by 3 (face cards not valued). Test G and H for independence.

10. A card is drawn at random from a standard 52-card deck. Event A is that the card drawn is a diamond. Event B is that the card drawn is a Queen.

Find $P(A), P(B), P(A \cup B), P(A|B), P(B|A)$, and $P(A \cap B)$. Are A and B independent events?