Shepherd UNIVERSITY

Math 314
Statistics

Quiz: Probability

1. Three cards are dealt from a well-shuffled deck.

   a) Find the chance that all the cards are diamonds.

   b) Find the chance that none of the cards are diamonds.

   c) Find the chance that the cards are not all diamonds.

   d) Find the chance that the third card is a 10.

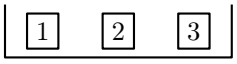
   e) Find the chance that the third card is a 10 given that the first two were $J\clubsuit$ and $2\heartsuit$.

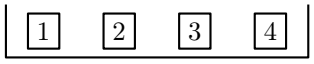
   f) Find the chance that the second card is a three or a $\spadesuit$.

   g) Let A be the event that the first card is a $\clubsuit$. Describe an event B for which A and B are independent.

   h) Let A be the event that the first card is a $\clubsuit$. Describe an event B for which A and B are mutually exclusive.

2. One ticket will be drawn at random from each of the two boxes shown below.

(A) 

(B) 

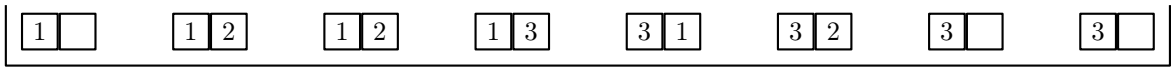
Find the chance that:

a) The number drawn from (A) is larger than the one from (B).

b) The number drawn from (A) equals the one from (B).

c) The number drawn from (A) is smaller than the one from (B).

3. In the box shown below, each ticket should have two numbers:



A ticket will be drawn at random. Can you fill in the blanks so that the two numbers are independent?

4. A box has 9 green beads and one red bead. Three beads are drawn at random with replacement. Find the probability that a two red beads will be drawn.

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Quiz 5

1. Three cards are dealt from a well-shuffled deck.

   a) Find the chance that none of the cards are hearts.

   b) Find the chance that all the cards are hearts.

   c) Find the chance that the third card is a 7.

   d) Find the chance that the cards are not all hearts.

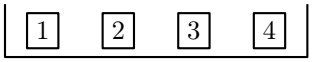
   e) Find the chance that the third card is a 7 given that the first two were $K\heartsuit$ and $3\spadesuit$.

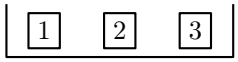
   f) Find the chance that the second card is an ace or a $\heartsuit$.

   g) Let A be the event that the first card is a $\diamondsuit$. Describe an event B for which A and B are independent.

   h) Let A be the event that the first card is a $\spadesuit$. Describe an event B for which A and B are mutually exclusive.

2. One ticket will be drawn at random from each of the two boxes shown below.

(A) 

(B) 

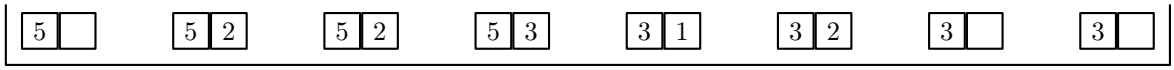
Find the chance that:

a) The number drawn from (A) equals the one from (B).

b) The number drawn from (A) is larger than the one from (B).

c) The number drawn from (A) is smaller than the one from (B).

3. In the box shown below, each ticket should have two numbers:



A ticket will be drawn at random. Can you fill in the blanks so that the two numbers are independent?

4. A box has 8 green beads and two red beads. Three beads are drawn at random with replacement. Find the probability that a two green beads will be drawn.