Help

L3 PROBLEM 2 (13/13 points)

In this problem, we're going to calculate some various probabilities.

1. What is the size of the sample space for two rolls of a ten sided die?

   100

2. What is the size of the sample space for three rolls of an eight sided die?

   512

3. What is the size of the sample space for drawing one card from a deck of 52 cards?

   52

4. What is the size of the sample space for drawing one card from each of two decks of 52 cards? That is, drawing one card from one deck of cards, then a second card from a second deck of cards.

   2704

5. Assume we roll 2 ten sided dice. What is P({rolling a 2 followed by a 3})? Answer in reduced fraction form - eg 1/5 instead of 2/10.

   1/100

6. Assume we roll 2 ten sided dice. What is P({first roll larger than second roll})? Answer in reduced fraction form - eg 1/5 instead of 2/10.

   9/20

7. Assume we roll 3 eight sided dice. What is P({all three rolls are equal})? Answer in reduced fraction form - eg 1/5 instead of 2/10.

   1/64

8. A standard deck of cards contains 52 cards, 13 each of four suits - diamonds, clubs, hearts, and spades. Each suit contains one of 13 cards: A (ace), 2, 3, 4, 5, 6, 7, 8, 9, 10, J (jack), Q (queen), K (king). Given one deck of 52 playing cards, you flip one over. Assuming a fair deck,what is P({ace of hearts})? Answer in reduced fraction form - eg 1/5 instead of 2/10.

   1/52

9. Given one deck of 52 playing cards, you flip one over. Assuming a fair deck, what is P({drawing a card with suit spades})? Answer in reduced fraction form - eg 1/5 instead of 2/10.

   1/4

10. Given one deck of 52 playing cards, you flip one over. Assuming a fair deck, what is P({ace of any suit})? Answer in reduced fraction form - eg 1/5 instead of 2/10.

1/13

11. Given one deck of 52 playing cards, you flip one over. Assuming a fair deck, what is P({any card except an ace})? Answer in reduced fraction form - eg 1/5 instead of 2/10.

12/13

12. Given one deck of 52 playing cards, you draw two random cards. (The cards are drawn at the same time, so the selection is considered without replacement) Assuming a fair deck, what is P({both cards are aces})? Answer in reduced fraction form - eg 1/5 instead of 2/10.

1/221

13. Given two decks of 52 playing cards, you flip one over from each deck. Assuming fair decks, what is P({the two cards are the same suit})? Answer in reduced fraction form - eg 1/5 instead of 2/10.

1/4

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