Elementary Statistics	Name:
Study Guide 13	Class:
Due Date:	Score:

<mark>Your solutions must be consistent with class notes & resources.</mark>

Be Neat, Organized, and No Work ⇔ No Points

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1. A company has hired 10 new employees, 7 men and 3 women. The company must assign **5** of them to the morning shift, **3** of them to the swing shift, and the rest of them to the graveyard shift.

   (a) **(2 points)** Find the probability that at least one man is assigned to the swing shift? Answer in reduced fraction only.

   (a) _____

   (b) **(2 points)** Find the probability that at least one man is assigned to the graveyard shift? Answer in reduced fraction only.

   (b) _____

   (c) **(2 points)** Find the probability that at least one woman is assigned to the morning shift? Answer in reduced fraction.

   (c) _____

   (d) **(2 points)** Find the probability that at least one woman is assigned to the swing shift? Answer in reduced fraction.

   (d) _____

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2. **(3 points)** In the game of Texas hold 'em, a player is dealt two cards from a shuffled standard deck of 52 playing cards in which the order of these cards that are dealt does not matter. Find the probability of getting at least one ace.

2. _____

3. Roulette wheels in Los Vegas have 38 pockets. Tthere are 18 red, 18 are black, and 2 green pockets. Each time the wheel is spun, a ball lands in one of the pockets, and each pocket is equally likely. If you spin the wheel twice,

   (a) **(2 points)** what is the probability that both balls land in a red pocket?

   (a) _____

   (b) **(2 points)** what is the probability that both balls land in a black pocket?

   (b) _____

   (c) **(2 points)** what is the probability that both balls land in a green pocket?

   (c) _____

   (d) **(3 points)** what is the probability that the both balls land in a same color?

   (d) _____

   (e) **(3 points)** what is the probability that both balls land in a different color?

   (e) _____

4. Given: $P(A) = 0.4$, $P(B) = 0.5$, **and** $P(A \text{ and } B) = 0.3$.

    (a) **(2 points) Find** $P(A|B)$

                                             (a) _____

    (b) **(2 points) Find** $P(B|A)$

                                             (b) _____

5. You are dealt three cards <u>without replacement</u> from a shuffled deck of 52 playing cards.

    (a) **(2 points)** Find the probability of getting three red cards.

                                             (a) _____

    (b) **(2 points)** Find the probability of getting three black cards.

                                             (b) _____

    (c) **(2 points)** Find the probability of getting three cards with the same color.

                                             (c) _____

    (d) **(2 points)** Find the probability of getting three cards such that they are not all the same color.

                                             (d) _____

    (e) **(3 points)** Find the probability of getting at least one face card.

                                             (e) _____

6. The probability that Jose shopping for himself will buy a tie is 0.2, the probability that he will buy a shirt is 0.3, and the probability that he will buy a tie given that he buys a shirt is 0.4. Find the probability that he will buy

   (a) (**2 points**) both a shirt and a tie.

   (a) _____

   (b) (**2 points**) a shirt, a tie, or both.

   (b) _____

   (c) (**3 points**) a shirt, given that he buys a tie.

   (c) _____

7. The probability that Lisa passes her math class is 0.65, the probability that she passes her English class is 0.75, and the probability that she will pass her math class given that she passes her English class is 0.8.

   (a) (**2 points**) Find the probability that she will pass both of her classes.

   (a) _____

   (b) (**3 points**) Find the probability that she will pass at least one of her classes.

   (b) _____

Always review old materials.