

HOMEWORK: Independent and Dependent Events

Name: _____

1. Determine which of the following are examples of independent or dependent events.

- a. Rolling a 5 on one die and rolling a 5 on a second die. **Ind**
- b. Choosing an 8 from a deck of cards, replacing it, and choosing a face card. **Ind**
- c. Choosing a jack from a deck of cards and choosing another jack, without replacement. **Dep**
- d. Being at lunch and eating a sandwich. **Dep**

2. In Mr. Koberstein's class, 9% of the students were born in March and 40% of the students have a blood type of O+. If Mr. Koberstein randomly selects two names from his cup of sticks, what is the probability that the first student was born in March and the second having a blood type of O+? (The same person can be picked twice).

$0.09(0.4) = 0.036$ **3.6%**

3. If a baseball player gets a hit in 31% of his at-bats, what is the probability that the baseball player will get a hit in 5 at-bats in a row?

$(0.31)(0.31)(0.31)(0.31)(0.31) =$
 0.00286 **0.286%**

4. 2 cards are chosen from a deck of cards. The first card is replaced before choosing the second card. What is the probability that they both will be clubs?

$0.25%$ $\frac{13}{52} \cdot \frac{13}{52} = 0.0625$

5. Redo problem 4 without replacement.

$\frac{13}{52} \cdot \frac{12}{51} = 0.0588$ **5.88%**

6. If the probability of receiving at least 1 piece of mail on any particular day is 22%, what is the probability of not receiving any mail for 3 days in a row?

$P(\text{no mail}) = 1 - 0.22 = 0.78$
 $(0.78)(0.78)(0.78) = 0.47455 = 47.46%$

7. Taylor bought a bag of jelly beans that contained 10 red jelly beans, 15 blue jelly beans, and 12 green jelly beans. What is the probability of Taylor reaching into the bag and pulling out a blue or green jelly bean and then reaching in again and pulling out a red jelly bean? Assume that the first jelly bean is replaced.

$\frac{27}{37} \cdot \frac{10}{37} = 0.19722$ **19.72%**

8. What is the probability of drawing 2 face cards one after the other from a standard deck of cards without replacement?

~~4~~ K, Q, J Face Cards 12
 4 suits ~~48~~ total

$\frac{12}{52} \cdot \frac{11}{52}$

1/0
96

ans