Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. In a bowl of marbles, there are 9 reds, 7 greens, and 10 blues.
2. If a marble is chosen at random from the bowl, what is the probability of choosing a red one OR a blue one?
3. If two marbles are chosen at random with replacement, what is the probability of picking a red marble AND then, a blue marble?
4. If two marbles are chosen at random withoutreplacement, what is the probability that they are both red?
5. A person rolls two dice, one after the other. Find the probability of the following events.
6. P(sum of 5)
7. P(sum is a multiple of 3)
8. P(sum less than 5 or more than 8)
9. P(sum is even given that one die showed a 2)
10. In a Coordinate Algebra class, 18 students were male and 13 students were female. Out of those students, 14of the guys and 9 of the girls passed the EOC. Construct a contingency table with this information:

|  |  |  |  |
| --- | --- | --- | --- |
|  | Males | Females |  |
| Passed |  |  |  |
| Did not Pass |  |  |  |
|  |  |  |  |

1. Find the following probabilities:

A. P(Girl who passed the EOC)

B. P(Boy or someone who didn’t pass)

1. In a class of 32 student, 22 are wearing blue jeans and 19 are wearing orange shirts. 3 are not wearing jeans or an orange shirt.
2. Draw a Venn diagram to represent this situation.

O = wearing orange shirt

J = wearing jeans

Find the following:

1. P(O) = c. P(~J)=

d. P(O∩J)= e. P(O∪J) =

 f. P(O|J)=

6. In a certain neighborhood, the probability of owning a bike is .736 and the probability of owning a skateboard is .385. The probability of owning a bike and a skateboard is .283.

Are owning a bike and owning a skateboard independent?

1. Use the conditional probability formula to answer the following.
* The probability that a student is wearing a hoodie given that they’re a boy is .211
* The probability that a student is a boy is .495.

A student is picked at random. What’s the probability that a student is picked who is a boy and is wearing a hoody?

8. If V represents the set all license plates beginning with a vowel, and 0 represents the set of all license plates that end with an odd number, which license plate belongs to the set V ∩ O’ ?



9. Which of the following events are independent?

a. P(A) = 0.25; P(B) = 0.25; P(A and B) = 0.5

b. P(A) = 0.08; P(B) = 0.4; P(A and B) = 0.12

c. P(A) = 0.16; P(B) = 0.24; P(A and B) = 0.32

d. P(A) = 0.3; P(B) = 0.15; P(A and B) = 0.045

Calculate the following from a deck of cards.

10. Drawing 1 card P(Ace or face card)

11. Drawing 1 card P(Ace or a red card)

12. Drawing 2 cards without replacement P(Ace and a face card)

12. Drawing 2 cards with replacement P(Face card and a 2)