

## Probability Vocabulary

We have already seen a couple examples of **Mutually Exclusive** events. Here is a review.

**Mutually Exclusive Events:** *Two events that can not happen at the same time.*

Here are some probability questions involving Mutually Exclusive events. Answer them.

**Assume you draw a card from a standard deck of playing cards.**

1. Find  $P(\text{Jack or King}) =$

2. Find  $P(\text{Spade or Heart}) =$

**Assume you roll one fair 6-sided die.**

3. Find  $P(\text{even or } 1) =$

4. Find  $P(3 \text{ or } 6) =$

In each of these probabilities, the two events are completely separate. They can not happen at the same time.

Another Vocabulary word: **Complementary Events**

**Complementary Events** *Two mutually exclusive events that together include all possibilities. (in other words, the probability of the two events happening is 1 or 100%)*

Here are some probability questions involving Complementary events. Answer them.

**Assume you draw a card from a standard deck of playing cards.**

1. Find  $P(\text{King or NOT King}) =$

2. Find  $P(\text{Black card or Red card}) =$

**Assume you roll one fair 6-sided die.**

4. Find  $P(\text{even or odd}) =$

4. Find  $P(\text{less than } 4 \text{ or greater than } 3) =$

In each of these probabilities, the two events are completely separate (mutually exclusive) AND they have a 100% chance of happening. This makes them Complementary Events!!

**Find the following probabilities and circle each description that is correct. (You may circle more than one 😊)**

For each of the following consider a standard deck of cards.

1.  $P(4 \text{ or Club}) = \underline{\hspace{2cm}}$

Mutually Exclusive

Complementary

Neither

2.  $P(\text{Heart or Black}) = \underline{\hspace{2cm}}$

Mutually Exclusive

Complementary

Neither

3.  $P(2 \text{ or } 7) = \underline{\hspace{2cm}}$

Mutually Exclusive

Complementary

Neither

4.  $P(\text{Face Card or NOT face card}) = \underline{\hspace{2cm}}$

Mutually Exclusive

Complementary

Neither

A fair ten-sided die is rolled (numbered 1-10)

5.  $P(4 \text{ or a Prime Number}) = \underline{\hspace{2cm}}$

Mutually Exclusive

Complementary

Neither

6.  $P(\text{Divisible by two or NOT divisible by two}) = \underline{\hspace{2cm}}$

Mutually Exclusive

Complementary

Neither

7.  $P(3 \text{ or } 10) = \underline{\hspace{2cm}}$

Mutually Exclusive

Complementary

Neither

8.  $P(\text{less than } 5 \text{ or greater than } 5) = \underline{\hspace{2cm}}$

Mutually Exclusive

Complementary

Neither