

Name:

Statistics

Date:

Practice Quiz 3-B

1. Jack's pumpkin patch has 220 large pumpkins and 60 small pumpkins. 40 of the large pumpkins and 25 of the small pumpkins are white, and the rest are orange. Let L be the set of large pumpkins, and let W be the set of white pumpkins. Find the probability of each of the following for a random pumpkin, and write it as an equation in set notation.

a) The pumpkin is orange.

There is no symbol for orange, so use the symbol for not white.

b) The pumpkin is large or white.

Don't count the large white pumpkins twice.

c) The pumpkin is large and white.

There are 40 large white pumpkins.

d) The pumpkin is large, given it is orange.

The denominator now includes only the orange pumpkins.

2. In problem #1, are the events L and W mutually exclusive? Why or why not?

Mutually exclusive events cannot be true simultaneously.

3. Lincoln shuffles a stack of 8 red cards and 2 black cards. He flips over the top two cards. State the following probabilities.

a) The second card is black.

You don't know what the first card is.

b) The second card is black, given the first card is red.

There are only 9 cards that the second card could be.

c) The first card is black, given the second card is red.

There are only 9 cards that the first card could be.

d) The second card is black, given the next two cards are both black.

You don't know the first card, but you do know the third and fourth cards.