

Name:

Statistics

Date:

Practice Quiz 3-C

1. Otto has a bag of 4 orange marbles, 5 red marbles, and 3 black marbles. One of the black marbles is cracked. He pulls out three random marbles. Find the probability of each of the following for the three selected marbles.

a) All three marbles are orange.

The first marble is orange, the second marble is orange, and the third marble is orange.

b) None of the marbles are orange.

The first marble is not orange, the second marble is not orange, and the third marble is not orange.

c) At least one of the marbles is orange.

This is the case unless none of the marbles are orange.

d) Exactly one of the marbles is orange.

There are 3 choose 1 different ways for this to happen.

e) All three marbles are the same color.

They could be all orange, all red, or all black.

f) All three marbles are different colors.

This is not the complement of (f).

g) The first two marbles are different colors.

They could be orange then not orange, red then not red, or black then not black.

h) The first marble is black and the other two are red.

This has to be black, red, red; nothing needs to be chosen or added.

i) One of the marbles is the cracked marble.

3 of the 12 marbles are chosen.

j) None of the marbles is the cracked marble.

9 of the 12 marbles are not chosen.