Independent and Dependent Events

Date_____ Period_____

Determine whether the scenario involves independent or dependent events.

1) You flip a coin and then roll a fair six-sided die. The coin lands heads-up and the die shows an even number.

2) Your sock drawer has two white socks, two brown socks, and six black socks. You randomly pick two socks and get a matching pair of black socks.

3) A basket contains five apples and eight peaches. You randomly select a piece of fruit and then return it to the basket. Then you randomly select another piece of fruit. Both pieces of fruit are apples.

4) There are seven nickels and four dimes in your pocket. You randomly pick a coin out of your pocket and place it on a counter. Then you randomly pick another coin. Both coins are nickels.

Determine if events A and B are independent.

5) $P(A) = \dfrac{9}{20}$ $P(B) = \dfrac{3}{5}$ $P(A \cap B) = \dfrac{9}{40}$

6) $P(A) = \dfrac{1}{2}$ $P(B) = \dfrac{3}{5}$ $P(A \cap B) = \dfrac{3}{10}$

Events A and B are independent. Find the missing probability.

7) $P(B) = \dfrac{7}{10}$ $P(A \cap B) = \dfrac{7}{20}$ $P(A) = ?$

8) $P(B) = \dfrac{1}{2}$ $P(A \cap B) = \dfrac{1}{5}$ $P(A) = ?$

9) $P(A) = \dfrac{2}{5}$ $P(A \cup B) = \dfrac{16}{25}$ $P(B) = ?$

10) $P(A) = \dfrac{2}{5}$ $P(B) = \dfrac{11}{20}$ $P(A \cup B) = ?$