Name Date

Practice A

10.2

In Exercises 1 and 2, tell whether the events are *independent* or *dependent*. Explain your reasoning.

1. A box contains an assortment of tool items on clearance. You randomly choose   
a sale item, look at it, and then put it back in the box. Then you randomly choose another sale item.

**Event *A:*** You choose a hammer first.

**Event *B:*** You choose a pair of pliers second.

2. A cooler contains an assortment of juice boxes. You randomly choose a juice box and drink it. Then you randomly choose another juice box.

**Event *A:*** You choose an orange juice box first.

**Event *B:*** You choose a grape juice box second.

In Exercises 3 and 4, determine whether the events are independent.

3. You are playing a game that requires rolling a die twice. Use a sample space to determine whether rolling a 2 and then a 6 are independent events.

4. A game show host picks contestants for the next game, from an audience of 150. The host randomly chooses a thirty year old, and then randomly chooses a nineteen year old. Use a sample space to determine whether randomly choosing   
a thirty year old first and randomly selecting a nineteen year old second are independent events.

5. A hat contains 10 pieces of paper numbered from 1 to 10. Find the probability   
of each pair of events occurring as described.

a. You randomly choose the number 1, you replace the number, and then you randomly choose the number 10.

b. You randomly choose the number 5, you do not replace the number, and   
then you randomly choose the number 6.

6. The probability that a stock increases in value on a Monday is 60%. When the stock increases in value on Monday, the probability that the stock increases in value on Tuesday is 80%. What is the probability that the stock increases in   
value on both Monday and Tuesday of a given week?

Name Date

Practice B

10.2

In Exercises 1 and 2, tell whether the events are *independent* or *dependent*. Explain your reasoning.

1. You and a friend are picking teams for a softball game. You randomly choose   
a player. Then your friend randomly chooses a player.

Event *A*: You choose a pitcher.

Event *B*: Your friend chooses a first baseman.

2. You are making bracelets for party favors. You randomly choose a charm and   
a piece of leather.

Event *A*: You choose heart-shaped charm first.

Event *B*: You choose a brown piece of leather second.

In Exercises 3 and 4, determine whether the events are independent.

3. You are playing a game that requires flipping a coin twice. Use a sample space   
to determine whether flipping heads and then tails are independent events.

4. A game show host picks contestants for the next game from an audience of   
5 females and 4 males. The host randomly chooses a male, and then randomly chooses a male. Use a sample space to determine whether randomly choosing   
a male first and randomly choosing a male second are independent events.

5. A sack contains the 26 letters of the alphabet, each printed on a separate wooden tile. You randomly draw one letter, and then you randomly draw a second letter. Find the probability of each pair of events.

a. You replace the first letter before drawing the second letter.

Event *A*: The first letter drawn is T.

Event *B*: The second letter drawn is A.

b. You do not replace the first letter tile before drawing the second letter tile.

Event *A*: The first letter drawn is P.

Event *B*: The second letter drawn is S.

6. At a high school football game, 80% of the spectators buy a beverage at the concession stand. Only 20% of the spectators buy both a beverage and a food item. What is the probability that a spectator who buys a beverage also buys   
a food item?