Name _____ Date _____

5.2 Practice A

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?