Accelerated Geometry Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Independent/Dependent Events Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Independent Events:

|  |
| --- |
| The probability of two independent events:  |

Dependent Events:

In the following examples, which events are independent? (Check all that apply)

\_\_\_\_\_Each number 1 through 10 is written on a slip of paper, placed in a hat, and randomly picked. Sarah picks a number less than 5, keeps it, and then picks an odd number.

\_\_\_\_\_A number cube is rolled and a spinner is spun. Henry rolls a multiple of 2 and lands on a red portion of the spinner.

\_\_\_\_\_Two cards are randomly chosen from a standard deck. Eliza chooses a jack, replaces it, and then chooses a black card.

\_\_\_\_\_Two pairs of socks are randomly chosen from a drawer. Hayden chooses a black pair of socks, puts them on, and then chooses another black pair.

\_\_\_\_\_A card is randomly chosen from a standard deck and a dart is randomly thrown. Olivia chooses an ace and the dart hits the bull’s-eye.

Practice Problems

1. Michelle and Christina are going out to lunch. They put 5 green slips of paper and 6 red slips of paper into a bag. If a person draws a green slip, they will order a hamburger. If they draw a red slip, they will order pizza.

Suppose Michelle draws a slip. Not liking the outcome, she puts it back and draws a second time. What is the probability that on each draw her slip is green?

2. Refer to #1. Recall that there were 5 green slips of paper and 6 red slips of paper in a bag. Suppose that Michelle draws a slip and does not put it back. Then her friend Christina draws a slip. What is the probability that both friends draw a green slip?

3. In Science class, students are drawing marbles out of a bag to determine lab groups. There are 4 red marbles, 6 green marbles, and 5 yellow marbles left in the bag. Jacinda draws a marble, but not liking the outcome, she puts it back and draws a second time. What is the probability that each of her 2 draws gives her a red marble?

4. In Science class, students are again drawing marbles out of a bag to determine lab groups. There are 4 red marbles, 6 green marbles, and 5 yellow marbles. This time Graham draws a marble and does not put his marble back in the bag. Then his friend Meena draws a marble. What is the probability they both draw green marbles?

|  |  |
| --- | --- |
|  | 5. If you spin the spinner twice which probabilities are true? (choose all that apply)\_\_\_\_$P\left(both green\right)=\frac{1}{16}$\_\_\_\_$ P\left(both blue\right)=\frac{1}{4}$\_\_\_\_$ P\left(first green then blue\right)=\frac{1}{6}$\_\_\_\_$ P\left(first orange and then blue\right)=\frac{1}{8}$\_\_\_\_$ P\left(first orange and then green\right)=\frac{1}{4}$ |

6. This week in school, there is a 75 percent probability of having a fire drill, a 50 percent probability of a tornado drill, and a 25 percent probability of having both drills. Let event F be a fire drill and event T be a tornado drill. Are the two events independent? Explain by showing your work

7. Josiah takes a multiple-choice quiz that has three questions. Each question has five answer options. If he randomly chooses his answers, what is the probability that he will get all three correct?