

**9.4 Practice A**

Tell whether the events are *independent* or *dependent*. Explain your answer.

1. You spin a spinner twice.

First Spin: You spin a 2.

Second Spin: You spin an odd number.

Independent

2. Your committee is voting on the leadership team.

First Vote: You vote for a president.

Second Vote: You vote for a vice president.

Dependent

3. You randomly draw a tile from a bag of 20 game tiles. You keep the tile and then draw a second tile.

First Draw: Move 3 spaces

Second Draw: Skip a Turn

Dependent

4. You randomly draw a tile from a bag of 20 game tiles. You put the tile back in and then draw a second tile.

First Draw: Move 3 spaces

Second Draw: Skip a Turn

Independent

5. You throw the bowling ball at the pins. There are 10 pins standing for the first throw and 4 pins standing for the second throw.

First Throw: You knock down 6 pins.

Second Throw: You knock down 1 pin.

Dependent

6. You roll a number cube twice.

First Roll: You roll an odd number.

Second Roll: You roll a number less than 2.

Independent

7. You randomly pick a straw from the holder containing 15 red straws and 8 yellow straws. You put the straw back in and then draw a second straw.

First Pick: You pick a yellow straw.

Second Pick: You pick a red straw.

Independent

8. You randomly pick a straw from the holder containing 15 red straws and 8 yellow straws. You keep the straw and then draw a second straw.

First Pick: You pick a yellow straw.

Second Pick: You pick a red straw.

Dependent

9. You are playing a game using 3 red blocks, 2 green blocks, and 1 purple block. Tell if the game is fair.

You win if you pick a green block, your friend wins if they pick a purple block

NOT Fair

10. Change the game so the rules are fair.

Your friend wins if:

they pick a green or a purple block

You win if:

you pick a red block

6. You roll a number cube twice.

First Roll: You roll an odd number.

Second Roll: You roll a number less than 2.

Independent

7. You randomly pick a straw from the holder containing 15 red straws and 8 yellow straws. You put the straw back in and then draw a second straw.

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**Chapter  
9**

**Test Review**

You randomly choose one of the tiles shown. Find the probability of each event.



1. Choosing an odd number

$$\frac{5}{10} \text{ or } \frac{1}{2}$$

2. Choosing a number that begins with the letter S

$$\frac{2}{10} \text{ or } \frac{1}{5}$$

3. Choosing a number divisible by 10

$$\frac{1}{10}$$

You randomly choose one marble from the jar. Find the theoretical probability of the event.

4. Choosing a blue marble

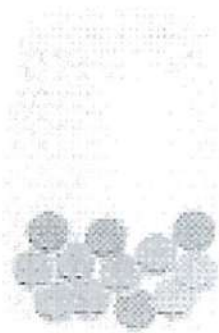
$$\frac{6}{12} = \frac{1}{2}$$

5. Choosing a green marble

$$\frac{2}{12} = \frac{1}{6}$$

6. *Not* choosing a red marble

$$\frac{8}{12} = \frac{2}{3}$$



6 blue  
4 red  
2 green

In Exercises 7 and 8, use the following information.

A factory produces 90 pairs of designer jeans. An inspector randomly chooses 6 pairs of jeans and discovers that 1 of the pairs of jeans is defective.

7. What is the experimental probability that the pair of jeans inspected will be defective?

$$\frac{1}{6}$$

8. How many of the 90 pairs of jeans would you expect to be defective?

$$\frac{1}{6} = \frac{x}{90} \quad x = 15$$

You toss two dimes 24 times and record the results. Make a histogram using the information from the table, then find the experimental probability of each event.

9. Tossing two tails

$$\frac{5}{24}$$

10. Tossing one head and one tail

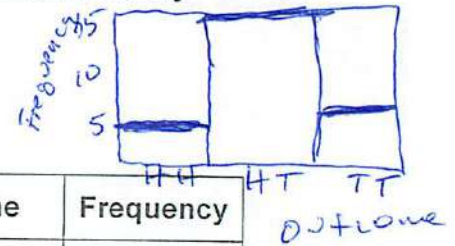
$$\frac{15}{24}$$

11. Not tossing two heads

$$\frac{20}{24} \text{ or } \frac{5}{6}$$

12. Tossing all heads or all tails

$$\frac{9}{24} \text{ or } \frac{3}{8}$$



Outcome	Frequency
head and head	4
head and tail	15
tail and tail	5

Tell whether the events are *independent* or *dependent*. Explain.

13. You are bowling and everyone takes two throws. There are 10 pins every time you throw.

First Throw: You knock down 8 pins.

*Independent*

Second Throw: You knock down 10 pins.

14. You are going ice skating and need to pick two pairs of socks to keep warm. In your drawer there are 5 pairs of white socks and 3 pairs of brown socks.

First Pick: You pick a pair of brown socks.

*Dependent*

Second Pick: You pick a pair of brown socks.

15. Tell whether the game would be fair or unfair, and explain why.

You win if you roll an even number on a number cube

Your friend wins if he rolls a number less than 5 on a number cube.

*NOT FAIR, because you have a  $\frac{1}{2}$  chance to win and your friend has a  $\frac{2}{3}$  chance to win*

16. Change something about the game in #15 so you and your friend have an equal chance of winning.

*Your friend wins if he rolls less than 4 on the number cube*

You toss two dimes 24 times and record the results. Make a histogram using the information from the table, then find the experimental probability of each event.

9. Tossing two tails

$$\frac{5}{24}$$

10. Tossing one head and one tail

$$\frac{15}{24}$$

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Outcome

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NOT FAIR, because you have a  $\frac{1}{2}$  chance to win and your friend has a  $\frac{2}{3}$  chance to win

16. Change something about the game in #15 so you and your friend have an equal chance of winning.

Your friend wins if he rolls less than 4 on the number cube