Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**7.SP.5**

Lesson Summary

* **Probability** is a measure of how likely it is that an event will happen.
* A probability is a number between and .
* The probability scale is:



\_\_\_\_\_1. Sara is playing a board game. The probability that Sara will score a point on her next

turn is . Which statement describes the probability that Sara will score a point on her next

turn? (2015)

A. likely B. certain C. unlikely D. impossible

\_\_\_\_\_2. Which event is **most** likely to occur? (2016) (no calculator)

A. flipping a fair coin, with sides labeled heads and tails, and the coin landing on tails

B. choosing a marble out of a bag, with nine blue marbles and one red marble, and the

marble being red

C. rolling a fair number cube, with the faces labeled one to six, and the cube landing on

a number less than six

D. spinning the arrow on a spinner, with four equal sectors labeled one to four, and the

arrow landing on a number greater than one

**\_\_\_\_\_**3.Leanne collects data throughout the basketball season and uses these data to determine the

probabilities of different teams playing in the league championship game. The probabilities for

her four favorite teams playing in the championship game are shown below

Tigers: P = Redbirds: P = Bulldogs: P = Titans: P =

Which of these teams is **least likely** to play in the championship game? (2017) no calculator

1. Tigers B. Redbirds C. Bulldogs D. Titans

\_\_\_\_\_4. Which number represents the probability of an event that is very likely to occur? (2018)

1. 0.12 B. 1.3 C. 0.89 D. 0.09

**7.SP.6**

\_\_\_\_\_1. Cassie rolls a fair number cube with 6 faces labeled 1 through 6. She rolls the number

cube 300 times. Which result is **most** likely? (2013)

A**.** Cassie will roll a 1 or a 2 about 50 times.

B. Cassie will roll a 1 or a 2 exactly 50 times.

C. Cassie will roll an even number about 150 times.

D. Cassie will roll an even number exactly 150 times.

\_\_\_\_\_2. An owner of a small store knows that in the last week 54 customers paid with cash,

42 paid with a debit card, and 153 paid with a credit card. Based on the number of

customers from last week, which fraction is closest to the probability that the next

customer will pay with cash? (2014)

A. B. C. D.

\_\_\_\_\_3. A storeowner made a list of the number of greeting cards sold last month. The store

sold 167 thank-you cards, 285 birthday cards, and 56 blank cards. Based on these

data, which number is closest to the probability that the next customer will buy a blank

card? (2014)

A. 0.11 B. 0.33 C. 0.56 D. 0.89

\_\_\_\_\_4. The results for a survey of 120 students who were selected randomly are listed below:

* 60 students have a cell phone plan with company X
* 36 students have a cell phone plan with company Y
* 24 students do not have a cell phone plan

The total population of students was 380. Based on the data, what is the **best**

approximation for the total number of students who have a cell phone plan with

company Y? (2016)

A. 114 B. 127 C. 143 D. 163

\_\_\_\_\_5. The school bus Evie rides is scheduled to arrive at her stop at 8:20 a.m. each day. The

table below shows the actual arrival times of the bus for several days that were

randomly selected over the past few months. (2015)



Based on these data, what is the probability that the bus will arrive at Evie’s stop before

8:20 a.m. tomorrow?

A. B. C. D.

\_\_\_\_\_6. A board game has a spinner divided into sections of equal size. Each section is

labeled with a number between 1 and 5.



Which is a reasonable estimate of the number of times the spinner will land on a

section labeled 5 over the course of 150 spins. (2017)

1. 15 B. 25 C. 40 D. 60

\_\_\_\_\_7. A spinner with seven equal sized sections was used to play a game. (2018)

* It was used 250 times in the first game.
* Of those 250, the arrow landed on section 7 a total of 35 times.
* The same spinner was used 150 times in the second game.

How many times did the spinner **most likely** land on section 7 in the second game?

1. 14 B. 21 C. 30 D. 35

\_\_\_\_\_8. Kerry has a bag containing white and yellow marbles. Kerry randomly selects one marble from

the bag, records the result, and returns the marble to the bag. The results of the first 65

selections are shown below.

• A white marble was selected 41 times.

• A yellow marble was selected 24 times.

Based on these results, what is the probability that the next marble Kerry selects, rounded to the nearest percent, will be white? (2019)

A. 41% B. 50% C. 59% D. 63%

\_\_\_\_\_9. A company sells artwork using a website. Information about the number of people that visited

the website and the number of pieces of artwork purchased on a single day is listed below.

• 117 people did not purchase any artwork

• 24 people purchased one piece of artwork

• 9 people purchased more than one piece of artwork

Based on the data from that day, what is the probability that the next person to visit the website will purchase more than one piece of artwork? (2019)

A. 1/9 B. 9/9 C. 3/50 D. 3/47

10. An after school program offers tutoring for different subjects. During the last month, a

teacher recorded the number of students who participated in the tutoring in each subject, as

shown in the table below.

**Tutoring Participation**

|  |  |
| --- | --- |
| **Subject** | **Number of Students** |
| Math | 40 |
| Science | 55 |
| English | 47 |
| History | 58 |

Explain how the teacher could use this data to predict about how many of the next 100

students will participate in math tutoring. (2016)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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11. At a store, customers are randomly selected to participate in a survey. On Friday, there were 500

customers at the store. Of those, 90 were selected to participate in the survey. On Saturday, the

store manager expects 700 customers in the store. If the probability of being selected to participate

in the survey on Saturday is the same as it was on Friday, how many customers will be selected to

participate in the survey on Saturday? (2017)

***Show you work***

***Answer*** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ customers on Saturday

**7.SP.7a**

\_\_\_\_\_1. A passenger train has tickets available for 12 window seats and 8 aisle seats. The next

person to buy a ticket will be randomly assigned to one of those seats. What is the

probability that the next person will be assigned to an aisle seat? (2017)

A. B. C. D.

**7.SP.7b**

\_\_\_\_\_1. A cereal company puts a colored ring in each box of cereal. There are 6 different ring colors.

The colors of the rings in each of 50 cereal boxes are shown in the table below. (2015)



Based on the data, what is the probability that the next cereal box will contain a blue or a yellow ring?

A. B. C. D.

\_\_\_\_\_2. A spinner is divided into four colored sections that are not of equal size: red, blue, purple, and

orange. The arrow on the spinner is spun several times. (2018)



The arrow on the spinner will be spun one more time. Based on these results, what is the

probability that the arrow will land on the purple section?

A. B. C. D.

\_\_\_\_\_3. A computer program selects blue, red, or green as the background color each time the program

is used.

* The program was used 45 times on the same computer in one week.
* Of those 45 times, a blue background appeared 12 times and a red background appeared 21 times.

Based on this information, which statement about the likelihood of the green background

appearing the next time the program is used is true? (2018)

1. Green is just as likely as red or blue to appear.
2. Green is just as likely as blue to appear, but not as likely as red.
3. Green is not as likely as red or blue to appear.
4. Green is not as likely as blue to appear, but is as likely as red.

**7.SP.8a**

\_\_\_\_\_1. Henry has a fair number pyramid with four faces and a spinner with three equal-sized

colored sections. The possible outcomes for each section are shown below.



What is the probability that the number pyramid will land on three and the spinner will

stop on blue?

A. B. C. D.

**7.SP.8b**

\_\_\_\_\_1. Which tree diagram shows all of the possible outcomes for tossing a coin and rolling a

fair number pyramid that has four sides labeled 1 through 4? (2014)



**Buckle Down Lesson 25: Compound Events Probability Practice**

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