Teacher(s): Mrs. Breazeale & Ms. DeBLanc

Subject/Grade: 7<sup>th</sup>/Grade Math

Week of March 11, 2024

**Domain: Statistics & Probability** 

Lesson Plan Title: Probability



#### MATHEMATICS - Mississippi College and Career Readiness Standards for 7<sup>th</sup> Grade

**7.SP.6** Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times.

**7.SP.7** Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy.

**7.SP.8** Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation.

**7.SP.8a** Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs.

**7.SP.8b** Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event.

**7.SP.8c** Design and use a simulation to generate frequencies for compound events. For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood?

**ESSENTIAL QUESTION:** How will I represent outcomes in the sample space for which compound events occur as a fraction?

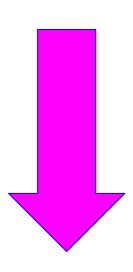
				THE ROLL IN CO.
1	Date	Focus Question	Objective	I will
	3/11 M	How do I represent the likelihood of an even and compound events as a fractions?	TSWBAT use the ratio # of favorable outcomes: # of outcomes to record the likelihood of events and compound events as a fraction by playing a clue like game with their classmates to eliminate clues to determine "Who dunnit?"	∇Analyze 10 real-world probability problems.  ∇Use the ratio # of favorable outcomes: # of outcomes to record the likelihood of events and compound events as a fraction.
	3/12 T	1) How do I use experimental probability of an event? 2) How do I use the experimental probability of an outcome in an experiment to predict the outcome of a similar experiment?	On the teacher assigned iReady lesson titled "Use Experimental Probability to Make Predictions," <i>TSWBAT</i> Use the results of an experiment to calculate experimental probability of an event.  Use the experimental probability of an outcome in an experiment to predict the outcome of a similar experiment.	VUse the results of an experiment to calculate experimental probability of an event.  VUse the experimental probability of an outcome in an experiment to predict the outcome of a similar experiment.
	3/13 W	What strategies, skills, and vocabulary can I use to show mastery on my 3rd Quarter 9 Weeks Test?	<b>TSTBAT</b> use the UNRAVEL strategy to solve real-world mathematical problems to rework the missed problems on the March DCA.	▽Use the UNRAVEL strategy to solve challenging problems. ▽Rework the most missed problems. ▽Develop an understanding of why mistakes were made on the MPT 3.6.
	3/14 TH	How do I analyze missed problems from March DCA in order to distinguish between "silly" mistakes and lack of know how so I can show growth on my next assessment?	<b>TSTBAT</b> use the UNRAVEL strategy to solve real-world mathematical problems to rework the missed problems on the March DCA.	Practice a variety of old and new strategies on real-world mathematical problems that were on the March DCA.
	3/15 F	TBA (Based on MPT 3.6 data.)	TSWBA explore a variety of problems from the RCC workbook pages that correlate to the most missed standards on March DCA.	▽ Explore a variety of problems and connect these problems to the ones most frequently missed on March DCA.

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# March 12, 2024 (Wednesday) Bell Ringer

Directions: Write your name on your paper and write the probability rate at the top of your paper. Once done, wait for

instructions.



Name:	Whodunnit?	•	
contestants on a reality TV show ust figure out the crime before t	were stunned to find their lowest s e bell rings. The question is Whoo t are left unaccounted for is the s	dunnit? And how The Pla	ed." T ayer, L
	2.		



## Clue #1



What is the probability of rolling either a 2 or a 3 on a fair six-sided number cube?

$\frac{1}{6}$ Mr. Epsilon was swimming laps in the pool.	
$\frac{1}{3}$	A cougar did not injure the victim.
$\frac{1}{2}$	Professor Delta was mopping the kitchen floor.
$\frac{1}{5}$	The victim was poisoned with any chemicals.



### Whodunnit?



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

Six contestants on a reality TV show were stunned to find their lowest scoring colleague was "injured." They must figure out the crime before the bell rings. The question is *Whodunnit*? And how... The Player, Last Known Whereabouts and Method that are left unaccounted for -- is the solution.

$$\frac{2}{6} \div \frac{2}{2} = \frac{1}{3}$$

2.

#### Who is the "Criminal"? (The three boxes left unchecked will reveal the crime. If you cannot figure it out, you may be next.) The Last Known The Players The Method Whereabouts **Chemical Poisoning** Dr. Alpha Atrium Cougar Attack Miss Beta Gym Mrs. Gamma Kitchen Electrocution Professor Delta Library Fallen Object Movie Theater Stubbed Toe Mr. Epsilon Pool Venomous Bite Coach Omega





## Clue #2

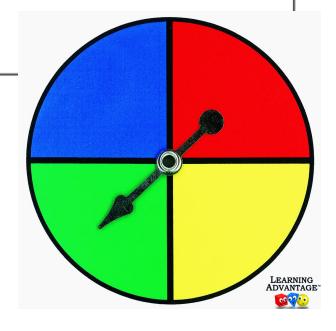
Janine is playing a game with a four-color spinner (red, blue, green, and yellow). What is the probability of spinning red or blue?

1	Dr. Alpha was playing handball in the gym
_	Dr. Alpha was playing handball in the gym.
4	

The victim did not stub a toe.

 $\frac{3}{4}$  Coach Omega was watching *Happy Days* in the movie theater.

1 The victim was not injured by a cougar.





### Whodunnit?



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

Six contestants on a reality TV show were stunned to find their lowest scoring colleague was "injured." They must figure out the crime before the bell rings. The question is *Whodunnit*? And how... The Player, Last Known Whereabouts and Method that are left unaccounted for -- is the solution.

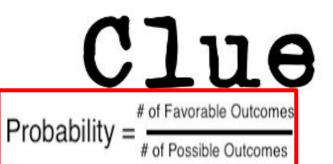
1.		
Drobobility	# of Favoral	ole Outcomes
Probability	# of Possible	le Outcomes
2	2	
<u> </u>		23
6	2	_ 3

Probability = 
$$\frac{\# \text{ of Favorable Outcomes}}{\# \text{ of Possible Outcomes}}$$

$$\frac{2}{4} \cdot \frac{2}{2} \cdot \frac{1}{2}$$

#### Who is the "Criminal"? (The three boxes left unchecked will reveal the crime. If you cannot figure it out, you may be next.) The Last Known The Players The Method Whereabouts **Chemical Poisoning** Dr. Alpha Atrium Cougar Attack Miss Beta Gym Mrs. Gamma Kitchen Electrocution Professor Delta Library Fallen Object Movie Theater Stubbed Toe Mr. Epsilon Pool Venomous Bite Coach Omega





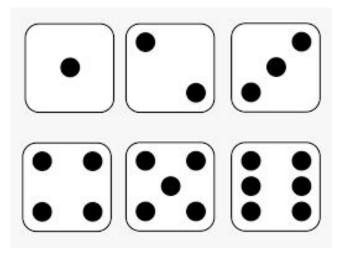






## Jorge rolls a six-sided die. What is the probability that he rolls a 1 or a prime number?

$\frac{1}{6}$	A venomous snake did not bite the victim.
$\frac{1}{3}$	A fallen object was not the cause of the injury.
$\frac{2}{3}$ Mrs. Gamma was reading in the atrium.	Mrs. Gamma was reading in the atrium.
<u>5</u>	Miss Beta was in the library reading Wuthering Heights.



3. # of Favorable Outcomes Probability = # of Possible Outcomes  $\frac{2}{2}$ 5. 6.

#### Who is the "Criminal"? (The three boxes left unchecked will reveal the crime. If you cannot figure it out, you may be next.) The Last Known The Players The Method Whereabouts **Chemical Poisoning** Atrium Dr. Alpha Cougar Attack Miss Beta Gym Mrs. Gamma Kitchen Electrocution Professor Delta Library Fallen Object Movie Theater Stubbed Toe Mr. Epsilon Coach Omega Pool Venomous Bite

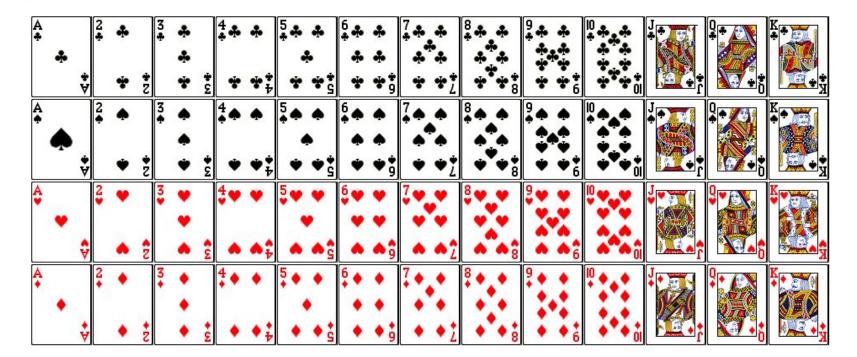


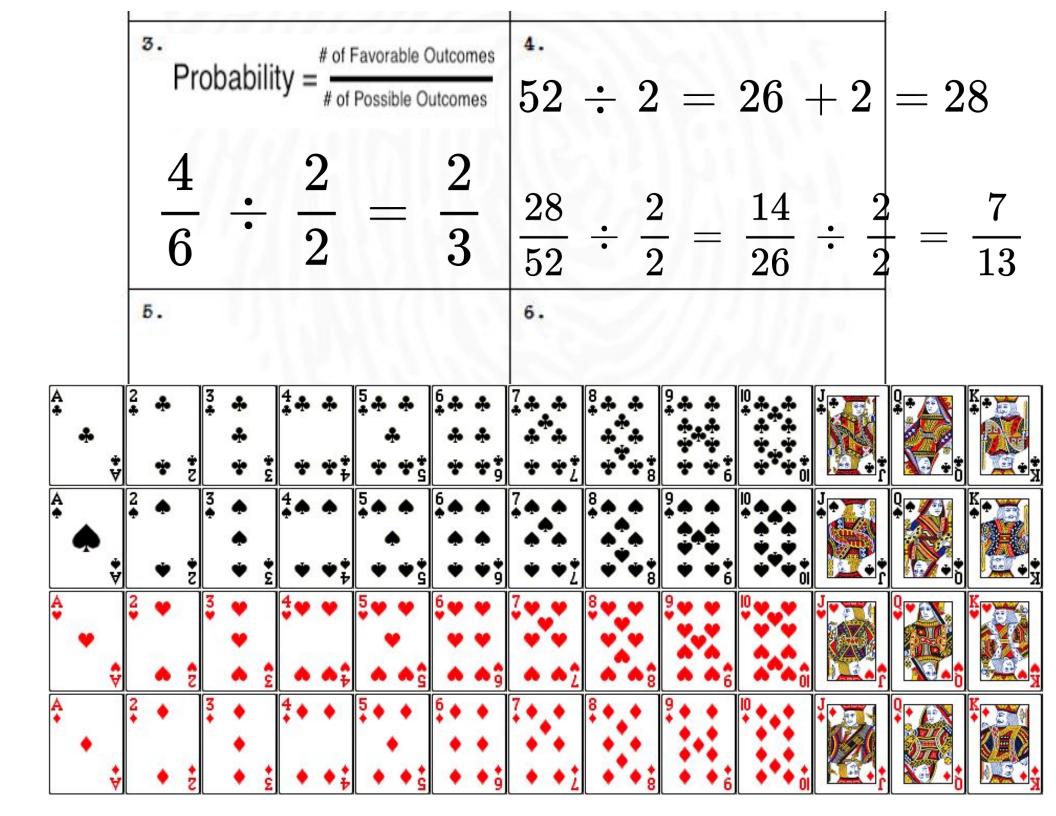
### **BEODONNOO?**

## Clue #4

What is the probability of drawing either a red card or a king from a deck of cards?

$\frac{9}{26}$	Mr. Epsilon was reading Algebra in the library.
$\frac{6}{13}$	Miss Beta was cutting carrots in the kitchen.
$\frac{7}{13}$	Electrocution did not injure the victim.
$\frac{15}{26}$	The victim's toe was not stubbed.



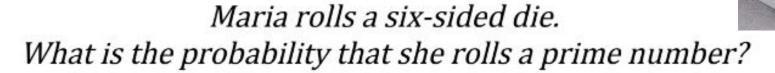


#### Who is the "Criminal"? (The three boxes left unchecked will reveal the crime. If you cannot figure it out, you may be next.) The Last Known The Players The Method Whereabouts **Chemical Poisoning** Atrium Dr. Alpha Cougar Attack Miss Beta Gym Mrs. Gamma Kitchen Electrocution Professor Delta Library Fallen Object Movie Theater Stubbed Toe Mr. Epsilon Coach Omega Pool Venomous Bite

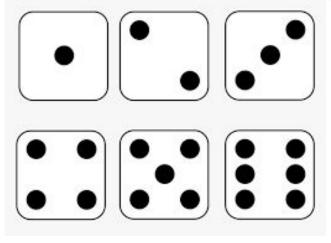




## **VEODUNDOO?**



$\frac{1}{6}$ A stubbed toe was not the injury. $\frac{1}{3}$ The victim was not bitten by a venomous snake.	
$\frac{2}{3}$	Miss Beta was sweeping in the atrium.



Probability = 
$$\frac{\# \text{ of Favorable Outcomes}}{\# \text{ of Possible Outcomes}} = \frac{4}{52} \div 2 = 26 + 2 = 28$$

$$\frac{4}{6} \div \frac{2}{2} = \frac{2}{3} = \frac{28}{52} \div \frac{2}{2} = \frac{14}{26} \div \frac{2}{2} = \frac{7}{13}$$
5.
$$\frac{3}{6} \div \frac{3}{3} = \frac{1}{2}$$

#### Who is the "Criminal"? (The three boxes left unchecked will reveal the crime. If you cannot figure it out, you may be next.) The Last Known The Players The Method Whereabouts **Chemical Poisoning** Atrium Dr. Alpha Miss Beta Cougar Attack Gym Mrs. Gamma Kitchen Electrocution Professor Delta Library Fallen Object Movie Theater Stubbed Toe Mr. Epsilon Coach Omega Pool Venomous Bite



### **BEODOBBOO?**

## Clue #6

What is the probability of drawing either a diamond or an ace from a deck of cards?

$\frac{1}{4}$	Professor Delta was meditating in the gym.	Probability = # of Favorable Outcomes # of Possible Outcomes
15 52	The victim was crushed by a fallen object.	
4 13	Dr. Alpha was watching health films in the movi	e theater.
$\frac{17}{52}$	Chemical poisoning was not the cause of the inj	ury.
	$\begin{bmatrix} A \\ + \\ + \end{bmatrix} \begin{bmatrix} 2 \\ + \\ + \end{bmatrix} \begin{bmatrix} 3 \\ + \\ + \end{bmatrix} \begin{bmatrix} 4 \\ + \\ + \end{bmatrix} \begin{bmatrix} 5 \\ + \\ + \end{bmatrix} \begin{bmatrix} 6 \\ + \\ + \end{bmatrix} \begin{bmatrix} 7 \\ + \\ + \end{bmatrix} \begin{bmatrix} 8 \\ + \\ + \end{bmatrix}$ $\begin{bmatrix} 4 \\ + \\ + \end{bmatrix} \begin{bmatrix} 4 \\ + \\ + \end{bmatrix} \begin{bmatrix} 5 \\ + \\ + \end{bmatrix} \begin{bmatrix} 4 \\ + $	
	A 2 4 3 4 4 5 4 6 7 4 8 8 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	

$$\frac{4}{6} \div \frac{2}{2} = \frac{2}{3}$$

4.

$$\frac{52 \div 2}{52} \div \frac{2}{2} = \frac{26 + 2}{26} \div \frac{2}{2} = \frac{7}{13}$$

$$\frac{3}{6} \div \frac{3}{3} = \frac{1}{2}$$

6.

$$\begin{vmatrix} 52 \div 4 &= 13 + 3 | = 16 \\ \frac{16}{52} \div \frac{2}{2} &= \frac{8}{26} \div \frac{2}{2} &= \frac{4}{13} \end{vmatrix}$$

### Who is the "Criminal"?

(The three boxes left unchecked will reveal the crime. If you cannot figure it out, you may be next.)

The Players	The Last Known Whereabouts	The Method
Dr. Alpha	Atrium	Chemical Poisoning
Miss Beta	Gym	Cougar Attack
Mrs. Gamma	Kitchen	Electrocution
Professor Delta	Library	Fallen Object
Mr. Epsilon	Movie Theater	Stubbed Toe
Coach Omega	Pool	Venomous Bite



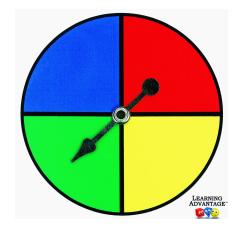
## Clue #7

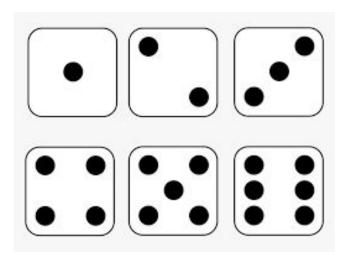


Jamaal rolls a six-sided die and spins a four-color spinner. What is the probability that he rolls a 4 and spins yellow?



$\frac{1}{24}$	Chemical poisoning was not the cause of the injury.
$\frac{1}{12}$	Professor Delta was checking websites in the library.
$\frac{1}{6}$	Mrs. Gamma was slicing tomatoes in the kitchen
1	The victim did not stub a toe.





7

### **Compound Events**

$$P(A \, and \, B) = P(A) \times P(B)$$

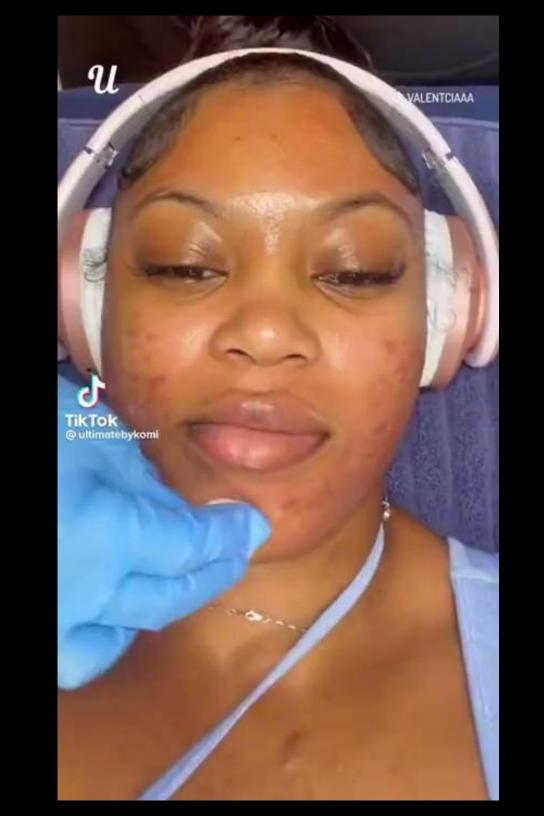
$$P(4\,and\,Y)\,=\,rac{1}{6} imesrac{1}{4}\,=\,rac{1}{24}$$

8.

#### Who is the "Criminal"?

(The three boxes left unchecked will reveal the crime. If you cannot figure it out, you may be next.)

The Players	The Last Known Whereabouts	The Method
Dr. Alpha	Atrium	Chemical Poisoning
Miss Beta	Gym	Cougar Attack
Mrs. Gamma	Kitchen	Electrocution
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Coach Omega	Pool	Venomous Bite



## **VEODONNOO?**

## Clue #8

Esmerelda flips a coin and draws a card. What is the probability that she gets "heads" and a black card?

The victim was not crushed by a fallen object.

Probability = # of Favorable Outcomes # of Possible Outcomes

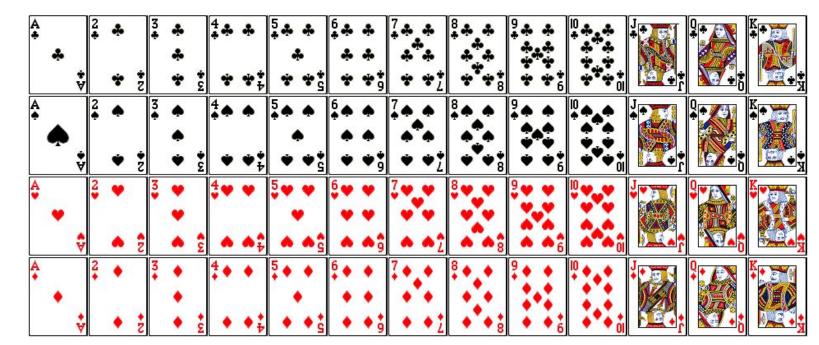
Professor Delta was making ratatouille in the kitchen.

 $\frac{1}{2}$ 

 $\frac{2}{3}$ 

Mr. Epsilon was lifting weights in the gym.

The victim was not mauled by a cougar.



7.

### **Compound Events**

$$P(A \, and \, B) = P(A) \times P(B)$$
  $P(A \, and \, B) = P(A) \times P(B)$ 

$$P(4\,and\,Y) = rac{1}{6} imes rac{1}{4} = rac{1}{24} egin{array}{c} P(H\,and\,Black) = rac{1}{2} imes rac{26}{52} = rac{26}{104} \end{array}$$

8. **Compound Events** 

$$P(A\,and\,B) \,=\, P(A)\, imes P(B) \ P(H\,and\,Black) \,=\, rac{1}{2}\, imes\, rac{26}{52} \,=\, rac{26}{104}$$

$$\frac{26}{104} \div \frac{2}{2} = \frac{13}{52} \div \frac{13}{13} = \frac{1}{4}$$

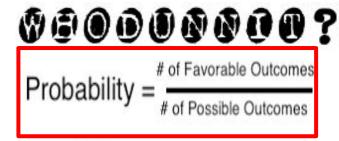
#### Who is the "Criminal"?

(The three boxes left unchecked will reveal the crime. If you cannot figure it out, you may be next.)

The Players	The Last Known Whereabouts	The Method
Dr. Alpha	Atrium	Chemical Poisoning
Miss Beta	Gym	Cougar Attack
Mrs. Gamma	Kitchen	Electrocution
Professor Delta	Library	Fallen Object
Mr. Epsilon	Movie Theater	Stubbed Toe
Coach Omega	Pool	Venomous Bite

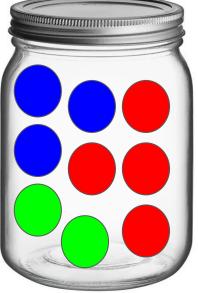


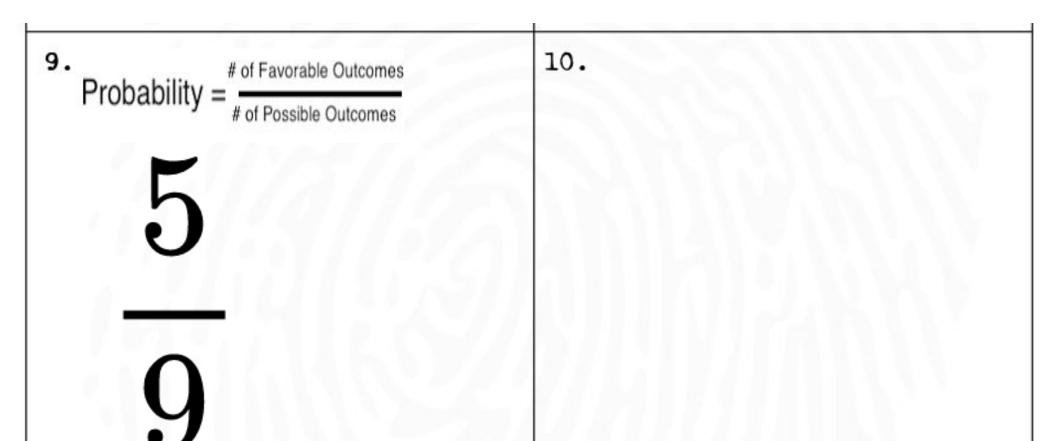
## Clue #9



A jar of marbles has 3 blue marbles, 4 red marbles, and 2 green marbles. What is the probability of drawing a marble that is green or not red?

$\frac{1}{3}$	Mr. Epsilon was checking Twitter in the library.	
$\frac{4}{9}$	The victim was not crushed by a fallen object.	
$\frac{5}{9}$	The victim did not get injured from a venomous bite.	
$\frac{2}{3}$	Miss Beta was diving in the pool.	





The Players	The Last Known Whereabouts	n The Method
Dr. Alpha	Atrium	Chemical Poisoning
Miss Beta	Gym	Cougar Attack
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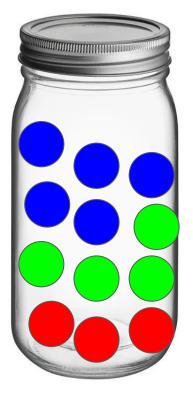


## Clue #10

Probability = # of Favorable Outcomes # of Possible Outcomes

A jar of marbles has 5 blue marbles, 3 red marbles, and 4 green marbles. What is the probability of drawing a marble that is blue, and then, after replacing it, drawing a marble that is green?

$\frac{5}{36}$	Miss Beta was dusting bookshelves in the library.
$\frac{1}{6}$	Mr. Epsilon was adjusting the filters in the pool.
$\frac{1}{4}$	A fallen object did not injure the victim.
$\frac{11}{36}$	A venomous bite was not the cause of the injury.



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10.

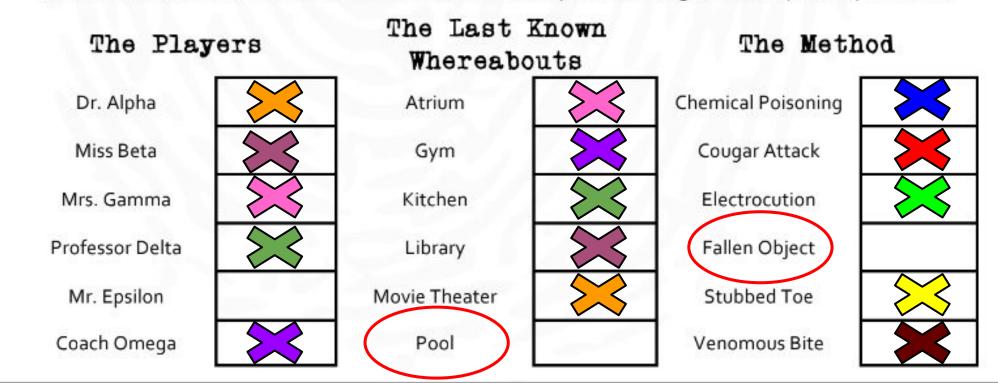
#### **Compound Events**

$$P(A \, and \, B) = P(A) \times P(B)$$
 $P(Blue \, and \, Green) = \frac{5}{12} \times \frac{4}{12} = \frac{20}{144}$ 

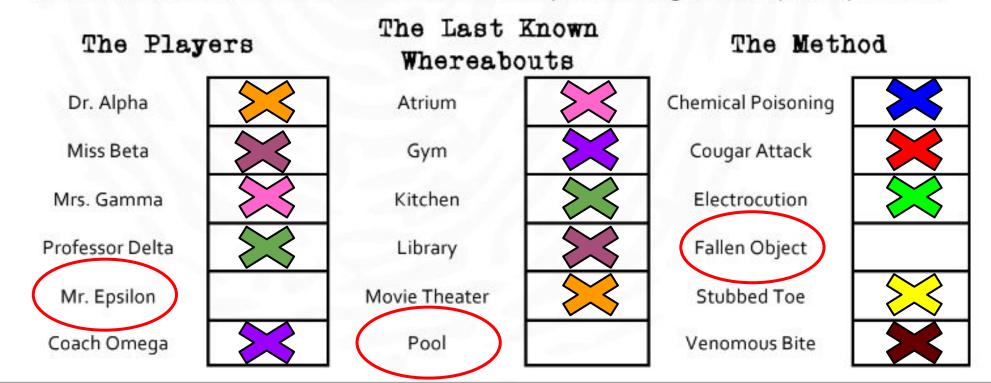
$$\frac{20}{144} \div \frac{2}{2} = \frac{10}{72} \div \frac{2}{2} = \frac{5}{36}$$

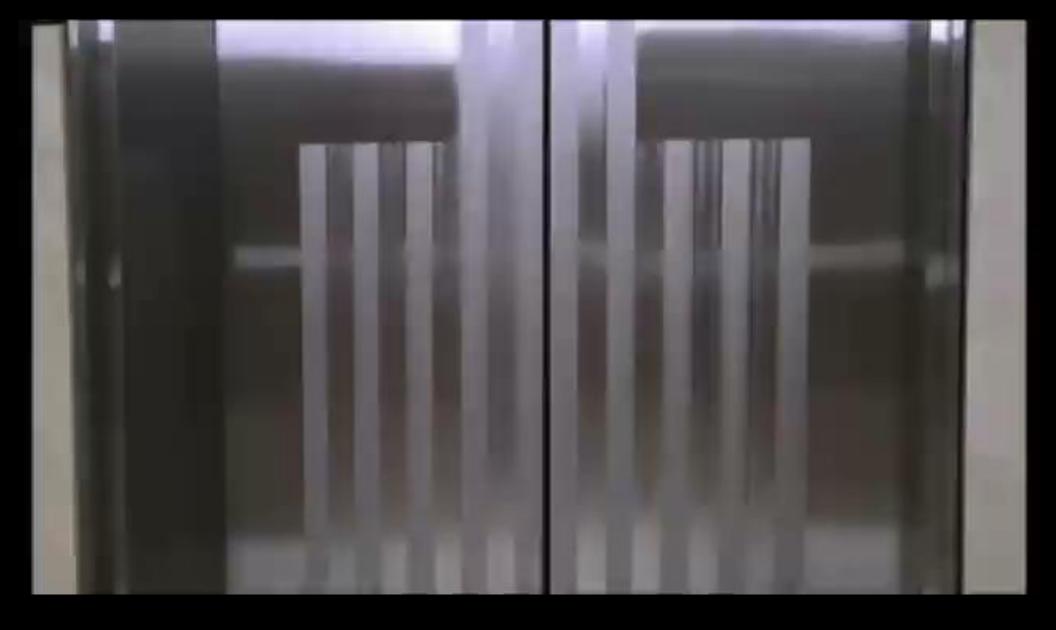
The Players	The Last Known Whereabouts	The Method
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Mrs. Gamma	Kitchen	Electrocution
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Mr. Epsilon	Movie Theater	Stubbed Toe
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The End

### March 11, 2024 (Tuesday)

#### **Directions:**

- Login to iready (Math).
- Choose the lesson titled, "Use Experimental Probability to Make Predictions" and PASS!
- <u>Take notes on lesson vocabulary</u> and <u>record at least</u>
   <u>3 examples.</u>
- Complete a lesson on your path.
- Get 45 minutes total!



#### March 12, 2024 (Wednesday)

#### Before the test....

- Gather materials: calculator, pencil, reference sheet, computer, and scratch paper.
- Login to edulastics.com.
- Choose 7th Grade Math March DCA.
- Begin your test.

#### <u>During the test...</u>

- Answer all the questions you know how to answer first.
- Work out problems on scratch paper.
- Use your time wisely. (Everyone should spend at least 45 minutes working on this test.)

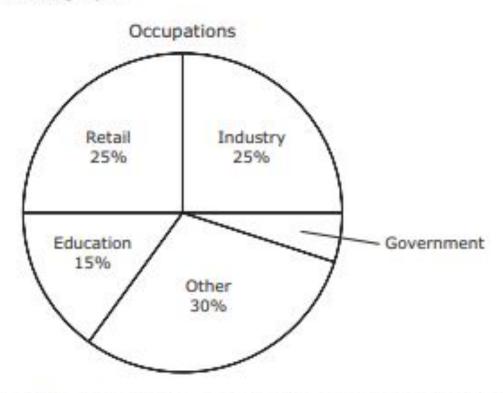
#### After the test...

• Login to iReady and complete a lesson on your path.

#### March 13, 2024 (Thursday)

## **Bell Ringer**

A survey was conducted to determine the types of occupations of the 1,200 residents of a town. The types of occupations are shown in the circle graph.



Based on the circle graph, how many more residents have an occupation in industry than have an occupation in government?

- A 20
- **B** 360
- C 240
- **D** 300



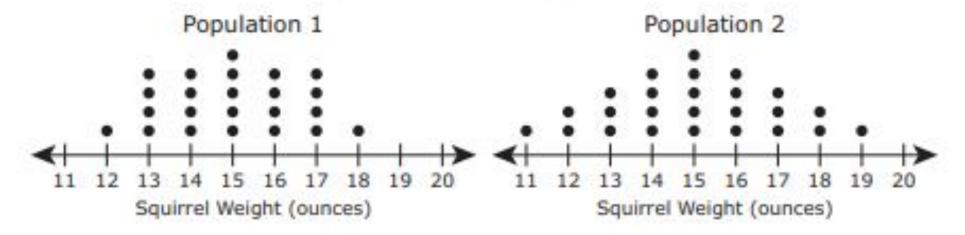
# March DCA Questions will go in this space.

#### March 15, 2024 (Friday)

## Bell Ringer

A scientist measured the weights of squirrels in two populations.

The dot plots display data from each population.



Which statement is best supported by the information in the dot plots?

- F The two populations have different mode weights.
- G The two populations have different median weights.
- H The data for the two populations have different skews.
- J The data for the two populations have different ranges.

## RCC workbook pages will be announced once the March DCA data is complete.

#### March 15, 2024 (Friday)



The table shows the numbers of different colors of pencils in a pencil case. A student will randomly select one pencil from the pencil case.

#### Colored Pencils

Color	Number of Pencils		
Red	2		
Purple	8		
Blue	4		
Green	5		

Based on the information in the table, which statement is true?

- F The pencil is least likely to be blue.
- G The pencil is 4 times as likely to be purple as it is to be red.
- H The pencil is equally likely to be blue or green.
- J The pencil is more likely to be purple than all other colors combined.

### Remediation & Enrichment

	Monday	Friday
B25	Activity: During the lesson, ask students to repeat important information that is said by other students during class instruction. Ask students HOT questions on the basic problems (Problems 1, 2,3, and 499)  Teacher: Mrs. Breazeale & Ms. DeBlanc	Activity: TTW pull individual students & ask guided questions about the assigned workbook pages. (What is this problem about? What are you trying to find out? What information is important?) Teacher: Mrs. Breazeale
Bubbles	Activity: ctivity: During the lesson, ask students HOT questions on the "grade level lesson problems. (Problems 5, 6, and 7) Teacher: Mrs. Breazeale & Ms. DeBlanc	Activity: TTW pull individual students frequently scoring below 50% on MPTS. Ask guided questions about the assigned workbook pages for the day. (What is this problem about? What are you trying to find out? What information is important?) Teacher: Mrs. Breazeale
T25	Activity: During the lesson, ask students HOT questions on the "more challenging lesson problems. (Problems 8, 9, and 10)  Teacher: Mrs. Breazeale & Ms. DeBlanc	Activity: While the teacher is pulling individual students frequently scoring below 50% on MPTs, use them to explain concepts in a different way when needed.  Teacher: Mrs. Breazeale

#### March DCA Student Results

	1st Period	3rd Period	4th Period	5th Period	7th Period
<b>Rubies</b> 0 - 40%					
Amethyst 41 -60%					
Emeralds					
61-70%					
Sapphires 71-100%					