Algebra II Journal

Module 4: Inferences

Situation Simulated

This journal belongs to:

Module 4: Inferences

Algebra II Journal: Reflection 1

Respond to the following reflection questions and submit to your teacher.

Complete the table using your own die, number cube or virtual die. Remember to roll your die/number cube six times, one roll per can of soda in the six-pack. Record your data in the table. Three trials have been done for you.

Complete the Win/Lose column. Remember, rolling a "3" means you won.

Trial	Trial Results	Win/ Lose
1	2 1 3 2 6 4	Win
2	2 5 2 6 5 1	Lose
3	6 4 2 5 1 1	Lose
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
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15		
16		
17		
18		
19		
20		

Determine the experimental probability of winning $50. That is, how many trials resulted in a win out of the twenty trials? Be sure to write your answer as a fraction or a percent.

Based on the results of this simulation, would you expect to win $50 if you purchased a six-pack of LottoSoda? Use the results of your simulation to support your decision.

Algebra II Journal: Reflection 2

Using the design of your simulation, respond to the following reflection questions and submit to your teacher.

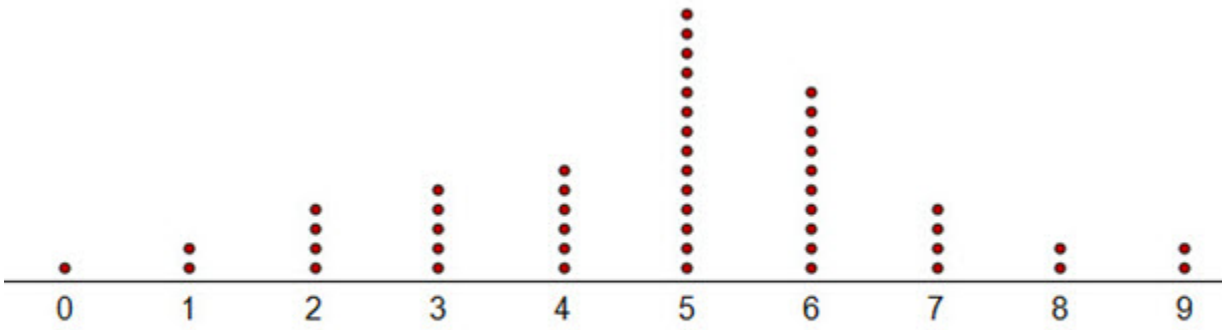
Design a table to record 20 trials. Include a column that will state if a home run was hit in each of the 20 trials (i.e., 20 games).

M and W Bank announces they will donate $250 to the Maryland State Department of Education for every home run the Blackbirds hit in the game. *Based on the results of your simulation*, what could M and W Bank expect to pay out for one game? Be sure to use the results of your simulation to support your answer. Submit your answer below.

Algebra II Journal: Reflection 3

The dot plot below shows the results of 50 completed simulations. Each dot marks the number of home runs seen in the simulation. For example, in the simulation Justyce and Khalid did, they saw a 6 in 180 chance for a home run. A dot was placed above 6 for their simulation.

Using the graph below, add a dot for your simulation. (Be sure to convert your mean to be out of 180.) You may also plot this graph and add your dot on your graphing calculator.



Chance of Home run (chance in 180)

Algebra II Journal: Reflection 4

Respond to the following activities and submit to your teacher.

Use the interactive version of the spinner on Situation Simulated page 8 on the Module 4 website to conduct a simulation to determine the probability that *at least one* game will be rained out in a three-game stretch.

Use the table below to record the outcomes of your simulation. Next, answer the following questions.

Trial	Number of Rain-Outs	Trial	Number of Rain-Outs

How many three-day stretches, out of twenty stretches (i.e., trials), resulted in at least one game being a rain-out?

How many stretches were complete rain-outs (all three games were rained out)? Write your answer as a *percent*.

In your simulation, you simulated a total of 60 games (20 three-game stretches). What percentage of the sixty games resulted in a rain-out? Write your answer as a *percent*.

How close was your answer in the previous bullet to the population mean of 20%?

Algebra II Journal: Reflection 5

Respond to the following reflection questions and submit to your teacher:

A weather reporter states that there is a 50% chance of rain for the next three days.

Design, but do not conduct, a simulation that will determine the probability that it rains all three days.

Describe how you would use your simulation tool to form a probability statement with 95% confidence about the chance of it raining all three days. (Do not actually perform these simulations.)

Module 4: Inferences

Notes