

Lesson 2 Multi-Step Problem Solving

Multi-Step Example

Jarvis is playing a board game with his brother. The table shows the results of his number cube rolls throughout the game. If his next roll is an odd number, he will win the game. How much greater is the probability that he will win? **7.SP.7a, MP 2**

Number	Number of Occurrences
1	4
2	5
3	7
4	5
5	3
6	1

- (A) $\frac{11}{25}$ (C) $\frac{1}{5}$
 (B) $\frac{2}{5}$ (D) $\frac{3}{25}$

Use a problem-solving model to solve this problem.

1 Understand

Read the problem. **Circle** the information you know. **Underline** what the problem is asking you to find.

2 Plan

What will you need to do to solve the problem? Write your plan in steps.

Step 1 Determine the _____ of each event.

Step 2 Determine the _____ of the probabilities.

3 Solve

Use your plan to solve the problem. Show your steps.

$P(\text{odd}) = \underline{\hspace{2cm}}$ $P(\text{even}) = \underline{\hspace{2cm}}$

Determine the difference between the probabilities.

$\underline{\hspace{1cm}} - \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

The probability of Jarvis winning is _____ times greater than losing.

So, the correct answer is _____. Fill in that answer choice.

4 Check

How do you know your solution is accurate?

Read to Succeed!



You can use a tree diagram, list, or table to help determine the outcomes for this problem.

Lesson 2 *(continued)*

Use a problem-solving model to solve each problem.

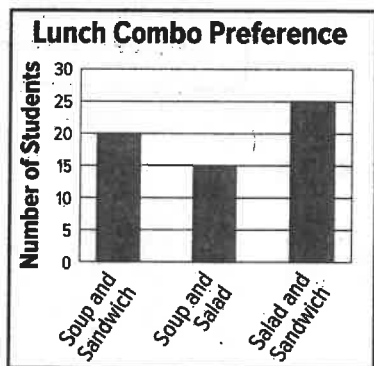
- 1 Mary performed an experiment where she flipped three coins 20 times. The table shows her results. How much greater is the probability that the result will be at least two tails compared to at least two heads?

7.SP.7a, MP 2

Result	Number of Occurrences
3 heads	2
2 heads, 1 tail	6
1 head, 2 tails	11
3 tails	1

- (A) $\frac{4}{5}$ (B) $\frac{7}{10}$ (C) $\frac{2}{5}$ (D) $\frac{1}{5}$

- 3 High school students were asked to report their favorite lunch combo option. The chart shows the survey results. Predict the number of students who will have to purchase a lunch combo for the school to sell 140 bowls of soup? 7.SP.7b, MP 2



- 2 Yesterday, 75 orchard customers bought apples and 15 of those customers bought gala apples. If 300 customers buy apples tomorrow, predict the number of customers you would expect to buy gala apples.

7.SP.7, MP 7

- 4 **H.O.T. Problem** The probability of spinning red on a spinner is $\frac{1}{8}$, the probability of blue is $\frac{1}{2}$, and the probability of yellow is $\frac{1}{4}$. There are 3 sections that are green. What is the minimum number of total sections on the spinner? Explain.

7.SP.7b, MP 7