

Robbery

in Skullzton

Student Companion

Name: _____



The Handshakes



Workspace

- 1.** How many distinct handshakes were made if each superhero shook each other's hand once and only once?

Answer:

- 2.** Explain the strategy you utilized to ascertain your solution.

Explanation

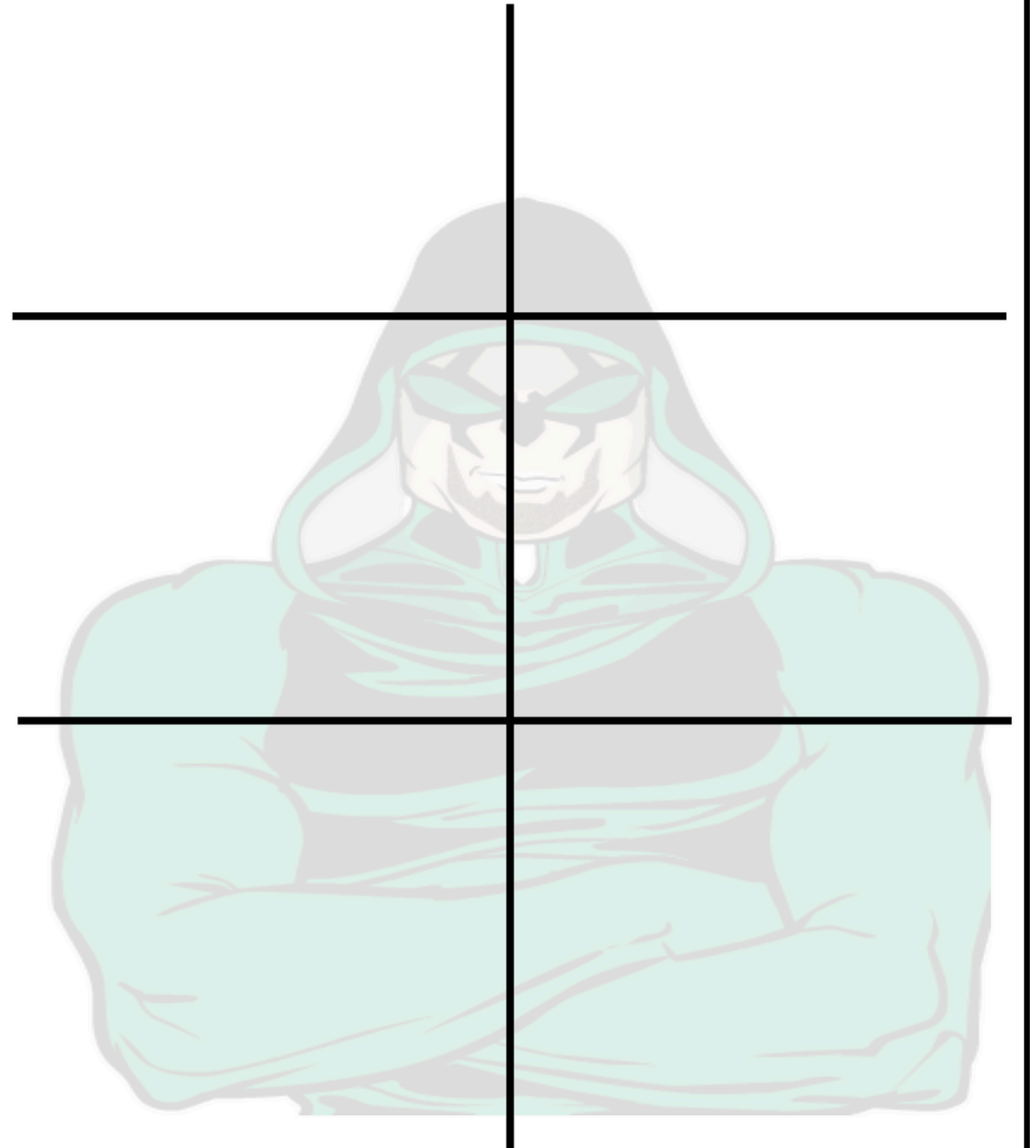
The Handshakes

To **Extend Your Thinking**, develop five more strategies that could be utilized to determine how many handshakes occurred at the banquet table.

Workspace

ROBBERY IN SKULLZTON

"THE HANDSHAKES"



The Key to the City



Workspace

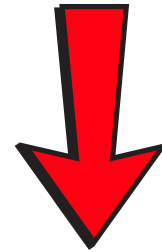
1.

If there are as many possible outcomes as there are distinguished guests, how many guests were being honored at the banquet?

Answer:

2.

What if the order of the numbers on the lottery ticket did not matter? How would this change the results of the lottery?



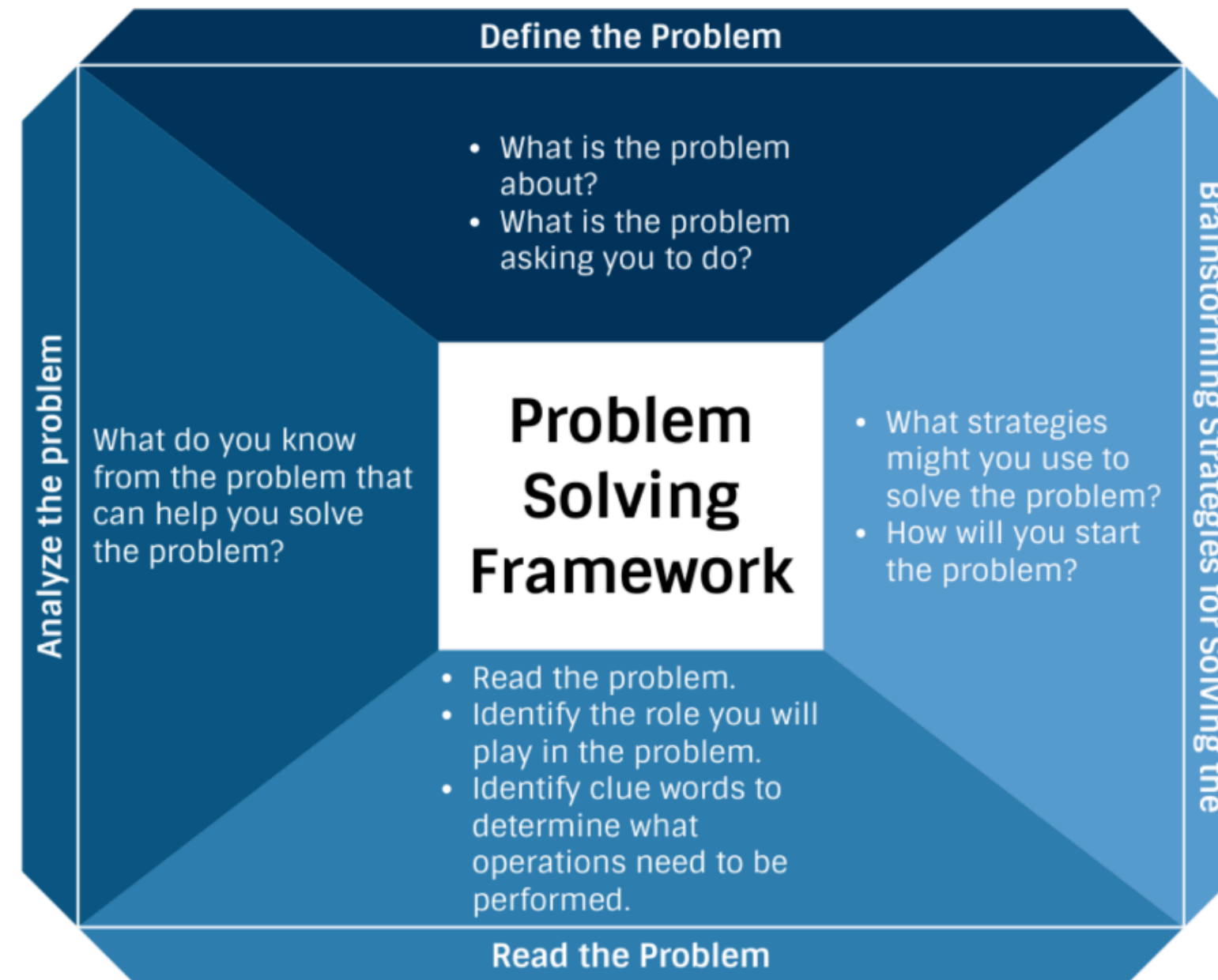
The Key to the City



What would you do if you were awarded the "Key to the City"? If you are not sure the meaning of the term "Key to the City", please utilize your resources and research the topic before you write your response.

[illegible]

Problem Solving Framework



The Vault



Workspace

- 1.** How many paths are there to get from the entrance to the exit of the vault?

Answer:

- 2.** Explain how you ascertained the number of paths.

Explanation

The Locks



Workspace

- 1.** What is the total number of possible combinations for the push-button lock? Show how you determined the number of combinations.

Answer:

- 2.** What is the total number of possible combinations for the combination lock? Show how you determined the number of combinations.

Answer:

The Locks



After determining how many possible combinations are available for each lock, which lock would you prefer to use. Defend your lock selection by constructing a list of 5 reasons why you prefer that lock over the other lock.

Reason 1	
Reason 2	
Reason 3	
Reason 4	
Reason 5	

The Plates



Workspace

- 1.** The eyewitness recalled that the next letter on the license plate may have been the letter X. If this is true, how does this help narrow down the search? How many fewer plates license plates would the police have to run a search on if they knew the first three letters?.

Answer:

- 2.** It it takes $\frac{1}{10}$ of a second to run a search on 1000 plates, how long would it take to run a search for both scenarios? How much time could the police save if they knew for the next letter on license plate was absolutely the letter X?

Answer:

The Plates

3. Why was it crucial for the eyewitness to know some of the license plate?

4. How many license plates are available in the City of Skullzton? How long would it take to run a search on all the license plates?

Answer:

**Extend
Your Thinking**

HAIR	EYES	BUILD	NOSE
bald	sunglasses	small	large
Short	eyeglasses	medium	small
long	brown	large	wide
knit hat	blue		straight edge
baseball cap	green		celebrity
	beady		
	wide open		

[illegible]

So Whodunnit?



So who did commit the robbery? Was it Silk Shadow's archnemesis The Phantom Hex? The license plate surely points us in that direction. Was it another of Skullzton 's villains? Was it an ordinary citizen? Now it is your turn. Write the ending to The Robbery in Skullzton. Be creative. Maybe you can write a math story problem to figure out whodunnit. Enjoy!

[illegible]

Post Task Reflection

