How to Solve a Multi-Dimensional *Mind Bender*®

Read the sample problem and use the multi-dimensional chart to solve it.

Sample Problem

Jim, Jason, and Tom have last names Smith, Lyons, and Dutcher. Each boy has a favorite sport (soccer, tennis, and fishing). Read the clues to find each boy's last name and favorite sport.

1. Jason plays his favorite sport by himself, but also plays Dutcher's favorite sport, tennis.

2. Lyons knows Tom and Smith, but he doesn't play any of the sports they play.

	Smith	Lyons	Dutcher	soccer	tennis	fishing
Jim						
Jason						
Tom						
soccer						
tennis						
fishing						

Clue 1 tells us that Dutcher's favorite sport is tennis and Jason's last name is not Dutcher. Mark all these answers on the chart (1a).

Clue 1 also tells us Jason plays his favorite sport by himself. Since tennis and soccer require other players, Jason's favorite sport must be fishing. Mark all these answers on the chart (1b).

Clue 2 tells us that Lyons knows Tom and Smith so Tom's last name is not Lyons or Smith so it is Dutcher. Mark these answers on the chart (2a).

	Smith	Lyons	Dutcher	soccer	tennis	fishing
Jim						− (1b)
Jason			− (1a)	− (1b)	− (1b)	+ (1b)
Tom						− (1b)
soccer			− (1a)			
tennis	− (1a)	− (1a)	+ (1a)			
fishing			− (1a)			

Since Clue 2 tells us that Lyons doesn't play any of the sports the other two play and Clue 1 tells us that Dutcher and Jason both play tennis and Jason's favorite sport is fishing, then Lyons cannot play tennis, fish, or be named Jason. So, we now know that Lyons is named Jim and plays soccer. This leaves us with Jason's last name as Smith We now know everyone's first and last names as well as each person's favorite sport. Mark these answers on the chart (2b).

Tom Dutcher's favorite sport is tennis, Jim Lyons' favorite sport is soccer, and Jason Smith's favorite sport is fishing.

	Smith	Lyons	Dutcher	soccer	tennis	fishing
Jim	− (2b)	+ (2b)	− (2a)	+ (2b)	− (2b)	− (1b)
Jason	+ (2b)	− (2b)	− (1a)	− (1b)	− (1b)	+ (1b)
Tom	− (2a)	− (2a)	+ (2a)	− (2b)	+ (2b)	− (1b)
soccer	− (2b)	+ (2b)	− (1a)			
tennis	− (1a)	− (1a)	+ (1a)			
fishing	+ (2b)	− (2b)	− (1a)			