

Prior to hearing these debates, I side with the \_\_\_\_\_ (Aff/Neg).  
Make sure to recognize your personal bias and remove it from the evaluation of the round.

## Your Role

Your most important responsibility is to fill out the ballot. There are six things to fill in on the ballot: 1) The logistical tournament info at the top, including the Aff and Neg codes provided by the debaters (note: this is the only information you should fill out prior to the end of the round), 2) The best case you could make for why the affirmative wins the debate you heard and any comments. 3) The best case you could make for why the negative won the debate you heard and any comments. 4) The reason the debater you chose to win did the better debating, 5) the side that contestant represented and their code (at the top), and 6) Your name, verifying that the debaters ran arguments about the topic.

You will also take the post-tournament survey. The tournament host will give you access.

During the debate, a judge should keep track of the arguments being made. Organized notes of the important points you thought were raised during the round will help you complete your ballot and may help you make a decision about who was better at debating.

Students are allowed and encouraged to time themselves, but you may also choose to time various parts of the debate, particularly the Question Segments and each student's preparation time.

## The Debate

Each round features two students: one representing the affirmative and one representing the negative. Each student gives four speeches, and there are two periods of questions. Students will attempt to prove or disprove the statement: "Resolved: Mathematics was discovered, not invented."

Affirmative Constructive – 5 minutes  
Negative Constructive – 5 minutes  
Question Segment – 3 minutes

Affirmative Rebuttal – 4 minutes  
Negative Rebuttal – 4 minutes  
Question Segment – 3 minutes

Affirmative Consolidation – 3 minutes  
Negative Consolidation – 3 minutes

Affirmative Rationale – 3 minutes  
Negative Rationale – 3 minutes

Each side has 3 minutes of preparation time during the debate, to be used in increments of their choice. For example, a student may elect to prepare for 2 minutes for their rebuttal speech, 2 minutes for their consolidation speech, and 1 minute for their final speech. Students may also prepare "for free" during each other's preparation time.

## Topic Primer

Our resolution asks debaters to address a central question: did we create mathematical concepts to help us understand the universe around us or is math the native language of the universe itself?

Affirmative debaters will defend that mathematics was been discovered. They may argue mathematics existed even before people were aware that it existed. Though our art, music, and language may be different from other cultures, most human societies throughout time have agreed on mathematical truths. Furthermore, the affirmative may speak to the idea that there are abstract objects (like mathematical structures) that exist but are not located in space and time. This view is called **platonism**. Debaters may use this concept to describe how mathematics existed in the universe, even when we did not know it. Two plus two still equals four even if you are young and do not know numbers. Two plus two still guides your life and will do so long past your understanding of it. Finally, the affirmative can speak to the academic process: mathematicians work to search for and discover truths that exist and have yet to be uncovered.

Alternatively, negative debaters may argue that to "invent" can mean to devise a new way to look at and understand the natural world around us. In this regard, we have invented math as it is necessary to understand the world around us. Other modern mathematicians write that math certainly exists in the natural world; however, it is our invention of new ways to view and use this math for our societal benefit which categorizes it as an invention. This is equivalent to an inventor finding a new way to use something that has already been created. Negative debaters may also speak to a concept called **nominalism**, a view according to which there are no abstract entities that exist independent of humans. Most nominalists believe that mathematics is, in some sense, a human invention.

Enter these debates with an open mind and enjoy Big Questions!