**What is Mathematics**

Instructions: Read through the following “definitions” of mathematics. Come prepared with (two printed copies of) (1.) a summary statement, (2.) your definition of mathematics, and (3.) a question you have about the definition of mathematics.

*Seven Definitions of Mathematics*

* Mathematics: The science of numbers and their operations, interrelations, combinations, generalizations, and abstractions and of space configurations and their structure, measurement, transformations, and generalizations. (Merriam-Webster)
* To identify a branch of study as part of mathematics, one is guided by its method more than its content. (Hersh, 7)
* Study of the lawful, predictable, parts of the social-conceptual world ... has a name: "mathematics." (Hersh, 19)
* Structuralism: Defining mathematics as the science of patterns. (Hersh, 177)
* Mathematics is immanent in nature; it is the truth about nature’s structure, or, as Plato would have it, the reality about the physical world. There is law and order in the universe and mathematics is the key to this order. (Kline, 29)
* [The universe] cannot be read until we have learnt the language and become familiar with the characters in which it is written. It is written in mathematical language, and the letters are triangles, circles and other geometrical figures, without which means it is humanly impossible to comprehend a single word. (Galileo, Opere Il Saggiatore p. 171)
* What then is mathematics if it is not a unique, rigorous, logical structure? It is a series of great intuitions carefully sifted, refined, and organized by the logic men are willing and able to apply at any time. The more they attempt to refine the concepts and systematize the deductive structure of mathematics, the more sophisticated are its intuitions. But mathematics rests upon certain intuitions that may be the product of what our sense organs, brains, and the external worlds are like. It is a human construction and any attempt to find and absolute basis for it is probably doomed to failure. (Kline, 312)