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**Studying Geometry: The Key to Human Survival**

It is crucial to our existence that human beings understand the world we live in. Without possessing the knowledge about not only planet Earth, but the entire universe around us, humans would be at a great loss. One of the most fundamental principles that help humans understand our surroundings is geometry. Geometry is all around us in both the physical world and in our imagination. Because geometry is so prominent in our daily lives, it is important that people study the subject. Geometry is closely connected to philosophy, a subject that creates the basis for mankind’s core ideals and thoughts. Not only is geometry connected to the human race, it is also connected to the type of civilization humans live in. Without acquiring the knowledge of geometry, humans would not be nearly as successful as we are today. Many educators believe that geometry is studied for the purpose of improving our logical reasoning skills, however, I do not agree with this notion. I do not believe that studying geometry enhances a person’s ability to make an effective decision in the real world. But that does not mean that geometry is something that people should disregard. Studying geometry is important because it improves our understanding of the world around us.

Studying geometry has a strong connection to the truths that make up philosophy. According to modern educators, philosophy is one of the most important subjects to study. Here at Holy Cross, each student must take at least one philosophy course in order to graduate. I am completing that requirement currently by taking Introduction to Philosophy. In class, I have learned a lot about true knowledge versus the experiences that we have with our senses (sight, smell, audio, and taste). The famous philosopher, Rene Descartes, believed that coming to understand the simple truths of math, many of which make up geometry, was one of the steps that led up to a person being able to be able to think. A person cannot trust their senses because there are multiple cases in which our senses trick us; it is inevitable that people fall victim to having false sensory experiences. Descartes justifies his belief by describing instances when senses have failed us: “I have noticed that the senses are sometimes deceptive; and it is a mark of prudence never to place our complete trust in those who have deceived us even once.” (Cahn, 490). People experience false senses when people see mirages, when people look at optical illusions, when people see something that is not really there, and also when people experience phantom limb syndrome. Geometry, on the other hand is always constant and reliable. A triangle will always be a triangle: “when I imagine a triangle, even if perhaps no such figure exists outside my thought anywhere in the world and never has, the triangle still has a certain determinate nature, essence, or form which is unchangeable and eternal, which I did not fabricate, and which does not depend on my mind.” (Cahn, 507). Geometry is comprised of simple truths that can be applied to the world around us. Math can be seen throughout nature which directly affects the way humans live. It is important for us to study geometry as a species whose daily lives are so closely linked to it.

If a person takes a close look at the natural world around them, they can easily pick out mathematical principles hidden everywhere. Geometrical shapes make up the world; the earth is a sphere, trees are cylinders, and the banks of rivers are parallel. Being the dominant species on Earth, it makes sense that we learn all that we possibly can about our surrounding environment. It is imperative that people are acquainted with Euclid’s *Elements* because they are the simplest foundations of mathematics. Because geometry is so prevalent in the natural world, it only makes sense that humans carry over geometry’s mathematical principles to the material world which we fabricate.

It is commonly said that any human can survive with four things; food, water, shelter, and love. Although love is an abstract concept that geometry is not involved with, the other three tangible necessities of life can be obtained with geometry. First off, there’s shelter. The harsh weather conditions that the Earth exposes us to can easily destroy a species. Natural disasters have destroyed lives of humans and all other species. However, with the invention of shelter, the chances of people dying as a result of their surrounding environment are greatly reduced. The only way a person can successfully build a structure is if they are familiar with geometry and the properties of shapes. As civilizations have become more advanced over the years, so has our knowledge of geometry. For example, it took years of making buildings for humans to finally realize that triangles are the strongest geometric structure and therefore should be the main shape used while constructing a building. Blueprints for buildings are composed of shapes and numbers-geometry in its truest form. If people did not understand the nature of geometry, then buildings would collapse easily and compromise the lives of humans across the planet.

People need a certain amount of water and food to survive. Humans had to use mathematics to find out how much food and drink was necessary for people of all shapes and sizes to sustain life. In order to store food and drink, people had to design containers. A lot of geometrical formulas and axioms were used during the creation of these containers. Using geometry, people measured and calculated the best and most effective way to store food and drink. Using parallel and perpendicular lines, humans created tables, cups, and all sorts of contraptions that make substance consumption easy for people. If humans decided to disregard geometry and make tables that weren’t parallel to the ground, then food and drinks would slide off the top of the table and go to waste. Without edible food and drink, the human race would not be able to survive.

Most educators are strong believers in the notion that humans study geometry to improve our logical reasoning skills. I, however, disagree with this. I do not understand how knowing about shapes and their properties can help someone make an important decision in the real world. Of course, if it is a decision concerning shapes and their properties that is applied to the real world I understand how knowing geometry could be helpful. However, how will knowing that any two points can be connected by one line help a person decide their future career? In my opinion, it does not. Geometry is important to know, but its basic principles do not help humans make important, complex decisions because abstract emotions are involved. Instead, I believe the main reason for studying and learning geometry is simple: we do it because we can. The human species is very intelligent and should attempt to learn everything they possibly can. There is an instance where “someone who had begun to read geometry with Euclid, [and] when he had learnt the first theorem, asked Euclid, ‘What shall I get by learning these things?’ Euclid called his slave and said, ‘Give this man three obols, since he must profit from what he learns.’” (Paper Prompt, 2). It appears that Euclid is mocking his student in the passage above. Euclid believed that a person should study geometry because working through proofs is good for the mind. I agree with Euclid; people should study geometry because it will benefit their minds. It will not improve their ability to make logical decisions but it will help them get a better understanding of the world around them.

Many people think that studying geometry is useless. They believe that it is pointless and will not help humans gain anything in any way. In my opinion, everything around us gives humans the reason to study geometry. The world is full of the principles that make up geometry. In both the natural world and the civilized world that we as a species made, geometry is a subtle, yet prevalent aspect. Geometry guides all of the shapes that make up every object in the world. Geometry also is connected to philosophy which states that mathematical principles make up the basis for true knowledge whereas the experiences we have with our senses are not to be trusted because they can deceive us. Lastly, it is important to study geometry merely because we can. Humans are superiorly intelligent to most of the other species that inhabit the Earth, and we should take advantage of all the subjects in which we can become knowledgeable.

Work’s Cited

Cahn, Steven M. Classic of Western Philosophy. Seventh Edition. Hackett Publishing Company. Indianapolis. 1977.

Little, John B. Paper Prompt. 2010.