

Name: Ruiyan Huang (Maggie)

Date of Birth: 02/15/2003

“All is number,” says Pythagoras.

Yes, life is like a mathematical function, simple at first glance but full of possibilities in hindsight. Since childhood, I’ve loved solving math problems, a hobby I obtained from playing math-related games. Over time, mathematical thinking has become an indispensable part of who I am.

Simply consider the function: $y = a^x$.

Assume “a” is greater than 1.

The graph will always pass the point (0,1).

This precision, a sense that outcomes are predetermined, may have a drag on people, making them content; they give up on looking for a new different possibility because they think they know the outcome.

But, this succinct, elegant mathematical function has inspired me to understand myself and the world.

1. “a” is who I was

“a” is a constant. It’s the unwavering part of my identity.

I was brought up in a relatively less-developed town in the outskirts of Suzhou. Growing up here, I once assumed the rest of the world goes with the same slow pace. I’d left for a few months. As I returned home after seeing a bigger world, I viewed everything with a fresh perspective, recognizing patterns and nuance like I’d never before.

2. “x” is what I see, do, and feel ...

In my world, “x” is a variable, always larger than 1.

I traveled a lot. For ten years my parents cut our daily expenses to give me tours around the world. Speaking little English, riding a motorcycle, sleeping in tents, I traveled through New Zealand, Iceland, Sri Lanka, Kenya and numerous wonderlands.

United World College has captivated me as much as the novelties on my journeys. In UWC, I met people from all over the world, some I’ve been to, some I’ve never heard of.

I learned from my Afghan roommate how their country is suffering from upheavals; how she’d watched her friends dying, and how fortunate she feels about being able to study here. I also learned about different religions. I greeted all the vegetarians around me. I joined forces with the LGBTQ movement.

As a proud UWCer, I’m pursuing my values, never afraid of the unknown.

3. “y” is who I will become.

Now I’ve seen parts of the world and known better whom I am as a person.

Mathematics is such a beautiful language that helps me to interpret myself and the surrounding

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world: Feeling hot can be expressed by regression (in sports), Bayes' formula can be used for testing cancer treatment's effectiveness (in medicine), wise decisions can be made based on the expectation (in lottery), and numbers can show the faults of an electoral system (in politics). If I want to figure out what Quantum mechanics is, the easiest way for me is to draw inspirations from uncertainty, wave function collapse, Schrodinger equation, and Quantum Bayesian model.

In this spirit, I conducted a project with statistics and probabilities to investigate the efficiency of different studying approaches. Subsequently, I applied my research results to help students in a local elementary school to improve their processes. In the future, I aspire to use mathematics to study different democratic systems, to enhance the fair distribution of educational resources, and to eliminate gender discrimination. In this respect, Honors Summer Math Camp(MathWorks: HSMC) is such a good opportunity that will guide me to explore more beauties of mathematics - both theoretical mathematics and its applied tracks.

Besides, through attending math lectures and intensive training sessions, I will actively challenge myself with advanced topics and enhance my problem-solving skills. Given the opportunities to choose my own courses and attend workshops, I will be able to more profoundly explore the fields of my interest. By conversing with math lovers from all over the world, I can benefit from an atmosphere of creativity and exploration.

"Life is mathematics," I'll say at HSMC.