CIE/USA-Seattle *MathComp* and *ScienceFun* Program Nov. 3rd, 2013

Education Seminar

Presentation 1: **Math**

Guest Speaker: Mr. Qun Li

Time: November 3rd, 2:10 -- 3:20 pm

Venue: Bellevue High School (10416 SE Wolverine Way Bellevue, WA 98004)

Mr. Qun Li -- Renowned math teacher/coach with over 2 decades of teaching experience with all Math level from elementary to high school/college Math. He has been doing Middle School/High School Math teaching and math club coaching with varies Math competitions for last 10 years (including AMC8/10/12/AIME, Blaine Washington Math Championship, Math-Is-Cool, and MATHCOUNTS). Mr. Li was two times state Math coach for National MATHCOUNTS and led the team won the best record (2nd place in the nation) for the Washington State in Washington D.C (May 2006). Also, he won Edyth May Sliffe Awards for Outstanding Math Teacher (Junior High School) in 2006 from Mathematical Association of America (MAA).

What is math?

Those who do not appreciate math are those who do not understand what math is all about. That is why the nature of math desperately needs to be explained. Simply put, math is about solving problems.

How can math help me solve problems?

Ever since there were humans in existence, there have been problems to solve. Whether the problems were over basic requirements like sustaining sufficient amounts of food or major accomplishments like constructing multifunctional homes, problems such as these remain with us to this day. The peculiar thing about problems is that they all have similar properties.

What do all problems have in common?

Successful problem solvers are able to understand what is expected of the problems they face. In other words, they know all of the details surrounding the problem at hand, which is the most important step to solving problems. It requires an attention to detail and therefore patience. After examining the details, intelligent choices need to be made as well as the beginning steps of

developing a strategy. The plan must be carried out in an order that makes sense. So careful planning, possibly by justifiable experimentation, must take place. Once an actual solution is obtained, it must be tested to determine whether or not it is reasonable.

What does problem solving have to do with math in school?

Every math problem that gets discussed, handled, and assigned forces us to use many, if not all, of the detailed methods of problem solving. Each individual problem becomes a small but important lesson for solving problems in general. Math is traditionally learned by first doing many smaller problems. Then the small problems are put together to solve bigger problems. For instance, in order to solve algebraic equations, being knowledgeable about addition, subtraction, multiplication, and division is a must. Ordering the steps to be carried out, evaluating expressions, and learning how and when equations are used must be learned, too.

Who commonly uses math?

Everybody uses math whether they realize it or not. Shoppers use math to calculate change, tax, and sales prices. Cooks use math to modify the amount a recipe will make. Vacationers use math to find time of arrivals and departures to plan their trips. Even homeowners use math to determine the cost of materials when doing projects.