



## MATH COLLOQUIUM

“Two Child Paradox: Is it Really a 50/50 Chance to  
Have a Boy or a Girl?”

Presentation by

**Math Teacher: Mr. Clinch**

When introducing concepts of probability, teachers usually rely on familiar situations to present examples: heads or tails on a coin, rolling snake eyes for a pair of dice, having a boy or girl, etc.

That last item is particularly interesting because we’ve been told time and again that the probability any randomly selected child is a boy should be 50%, however (barring biological technicalities) is that true in every case?

- Does it depend on the way in which we ask the question?
- Do these two questions give the same results or are they different?
  1. *Mr. Jones has two children. The older child is a boy. What is the probability that both children are boys?*
  2. *Mr. Smith has two children. At least one of them is a boy. What is the probability that both children are boys?*
- What if I told you that one of the two children is a boy born on a Tuesday, would that change your answer?
- What if I told you that it should? Come on in and see why!

Thursday, October 8

During Lunch in Room 206

**ALL STUDENTS AND FACULTY ENCOURAGED TO ATTEND!**  
**BRING YOUR LUNCH, SIT BACK, AND LISTEN IN!**