Something more

   So a friend of mine visited the office the other afternoon.

She noticed a calendar that I keep on the wall where I mark each day I have worked. She made the comment that this day was divisible by 11. I thought to myself, "*I've never been that good with divisibility rules.*" Being the awesome math teacher she is… she continued, "Just add the two outside numbers and if they equal the middle number then it's divisible by 11 for any 3 digit number." And by golly it works! It turns out that I've tested this on every three digit number I've come across since. I imagine my friend reading this is smiling and shaking her head. Truth is that I smile every time it works out.
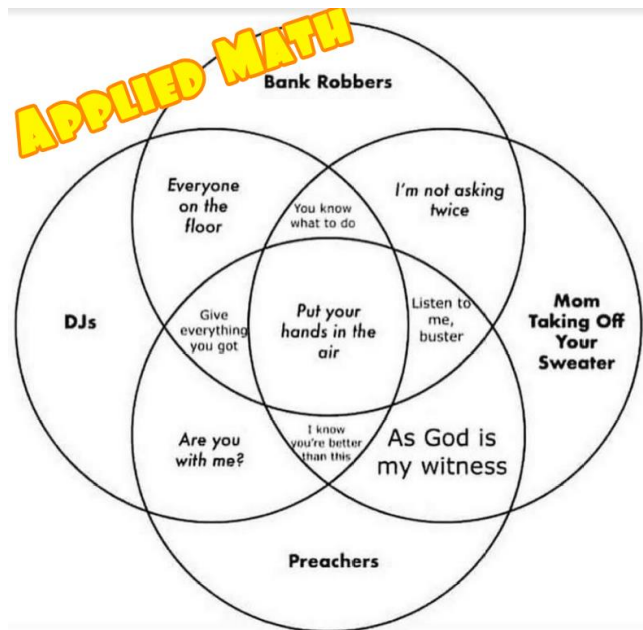
This is the testing season for public schools here in Georgia. And being a teacher who survived the season for the better part of 30 years, I remember the push to try and fill my students' heads with as much knowledge about mathematics as possible in the final days before the exam. The flawed motto being, "Throw as much against the wall as you can and hopefully some of it'll stick!" Realizing later, that for whatever reason, the stuff that stuck when I threw it against the wall was not necessarily the stuff that I wanted the students to remember. Or it would stick in some non-coherent way. **Ugh!**

Later, as a more experienced and patient teacher, I would faithfully cover the curriculum more purposefully, if not as completely as the _ever optimistic system pacing guide_ might suggest. Asking the students to explain why and how, we would take time to make the math our own. AND you know, the students did ok on the tests. They also left knowing they could reason the math out, to boot.

I've been tutoring a young lady as she prepared for her GMAS math exam this past week. She is a very good student. I looked at her notebook and she had problems flawlessly recorded. It is quite apparent she was diligent in her note taking. I was really quite impressed. She knew her "rules" and "short cuts" by heart. Yet her knowledge of the math was, at times, disjointed. She was applying rules faithfully but in places that really made no sense. In fact, we probably worked for days before I really felt like we made solid progress.

One night, we played a game where I would give her a fraction and she would name an equivalent fraction. She struggled... My wife entered the game and we exchanged fractions. I could see the wheels turning in our _tutee's_ head … the quizzical look on her face as if my wife and I had some kind of secret code. But our little scholar wrote down the numbers as my wife suggested. She recognized patterns. She verbalized what she observed. She recognized the rule. She eventually made it her own.

We had turned the corner when she began to ask questions like, "Why?" and "How did that happen?" While I don't know how she's going to do on her GMAS test, I'm hoping that our interaction has made her a more curious and confident student. Walking her home that evening, she looked at me and said, "Mr. Peter, the numbers do make sense if you just take a moment and listen to them."

You know what this meant, don't you?

I had to go and understand **why,** _when you find the two outside numbers' sum to be equivalent to the middle number of a three-digit number then the number is divisible by 11._ I could no longer apply the rule mindlessly.

I appreciate the mathematical earworm that my friend put in my head. I hope as a teacher that I do the same for my students. It just might be more valuable than a test score…

Happy Maths, Good People!

Peter

If you are curious why about the 11 divisibility rule come see me.