



Dear GTACS families:

Since the early 60s, there has been great debate in education regarding math – a debate that continues among educators today. The discussion tends to pit two approaches against one another: The so-called *traditional approach* versus *reform math* (also referred to as “new math” or “whole math”).

**Contrary to what many people think, the goal of both approaches to math is “conceptual understanding.” The difference lies in the methods used to arrive at that conceptual understanding.**

At Grand Traverse Area Catholic Schools, we believe that students learn best when they are first given the basic framework of mathematics – facts, algorithms, skills and procedures – and that, in due time, conceptual understanding will occur. That is why you will find students in our elementary buildings doing long division and high school students factoring polynomials. To be clear, this does not discredit the importance of problem solving, which is also a component of math education in all grade levels in our school system.

The “framework first” approach is supported by many experts in education including Stanford mathematician Keith Devlin: *“I think many mathematical concepts can be understood only after the learner has acquired procedural skill in using the concept. In such cases, learning can take place only by first learning to follow symbolic rules, with understanding emerging later, sometimes considerably later.”*<sup>1</sup>

The soundness of our math instruction is also evident through individual and collective standardized test results. Last year, graduates had a combined average ACT score in math of 23.3 -- well above the state average of 20.1. Additionally, last year’s 8<sup>th</sup> grade average NWEA MAP<sup>2</sup> score was so high, it was literally “off the charts,” exceeding national norms at any grade level<sup>3</sup>.

Still, there’s always room for improvement. We take our job of educating children seriously and know the sacrifice it takes to send your children to our school system. We continually work on important details relative to curriculum and standards<sup>4</sup>, but it is all done using textbooks and tactics<sup>5</sup> that promote students’ arrival at a conceptual understanding by acquiring procedural understanding first.

If you have further questions about the math curriculum in our school system, or the strategies used by teachers in their classrooms, please do not hesitate to contact me.

God Bless,

A handwritten signature in black ink, appearing to read 'M Bauman', written in a cursive style.

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<sup>1</sup> [https://www.maa.org/devlin/devlin\\_09\\_07.html](https://www.maa.org/devlin/devlin_09_07.html)

<sup>2</sup> North West Evaluation Association’s Measures of Academic Progress Math Test ([www.nwea.org](http://www.nwea.org))

<sup>3</sup> 8<sup>th</sup> Grade Students in the fall of 2012 had an average RIT score of a 247.7. The NWEA table of normed data ends in 11<sup>th</sup> grade with the average there being a 238.3.

<sup>4</sup> Curriculum Alignment, Priority Standards, Pacing Guides, Instructional Strategies

<sup>5</sup> K-5 Saxon and 6-12 Prentice Hall