Students Write Tabloid Tabulations in a Math Gossip Magazine

By Joe Bellacero and Tom Murray

"Education is what happens to the other person, not what comes out of the mouth of the educator. You have to posit trust in the learner." -Horton et al. 1998

Tom Murray, math department, Robert F. Wagner Jr. Secondary School of Arts and Technology:

I am looking at the finished product again. Each time I consider the neatly formatted tabloid cover and the cleverly written articles that make up the collection we call the "Math Gossip Weekly," I am left in a state of amazement. It has been just about one year now since my eighth grade students, guided by the combined efforts of Joe and me, brought this tabloid to fruition. I can recall the process as if it were yesterday. And yet, I am still surprised that a math activity that started with just some imagination on Joe's part and a little trust on mine turned into one of the most thrilling things that I have ever done in my years of teaching.

Many questions still surface when I reflect on this writing project. What made it so successful? What made it so enjoyable? What have I learned from this experience? What have my students learned? And finally, how can I use this experience to grow my own teaching and to possibly help others as well?

Joe Bellacero, on-site teacher-consultant at Wagner and associate director, New York City Writing Project:

The way it begins is almost always the same; I lean around the corner of a cubicle or into a classroom door, or over the shoulder of a paper-grading teacher, "Hey, what's going on?"

I've pulled Tom away from something—research on the internet, grading student papers, preparing a lesson, or another of the myriad tasks that take up a teacher's non-classroom time. He's a bit hesitant; he doesn't want to be rude and he may get something out of our talk, but the stuff he's doing is important, too. He wavers, and just as I'm about to suggest I might come back later, he invites me into his cubicle and we talk about what he's doing with his seventh and eighth grade math students, how it's working out, what he wants that he may not be getting. I tell him what a struggle math always was for me; how it put a lump of fear in my chest; how I thought I knew how to do a process until I walked out of the room or until the next problem added an exponent that the model hadn't had, and then I was lost and hurt and embarrassed and angry and stupid and wanting it all to just go away.

Tom mulls this, then tells me that the eighth-graders have recently finished their big standardized test and he just wants to do something that will help them review for finals, will be fun, will help him see the thin places in their learning/understanding so he can precisely target his review, and will reach out to those students like me, who need a different approach.

When Joe and I first discussed the idea of having my students write math articles fit for a gossip magazine, I had a lot of doubts. His idea seemed pretty strange for a "born-and-bred" conventional math teacher. I had spent the better part of two months leading up to the big test, "cramming" and doing practice problems with my students.

In other words, the majority of these classes involved teaching in a structure and format that I had seen modeled by my math teachers: "teacher as center of the learning process." Reflecting on why I chose approaches I knew were boring and only moderately effective, I can only think that I instinctively used these methods because they were comfortable for the me who was fearful of letting things get messy. But every year there were also times when I would like to try to have some fun with my students. And with the state exams over, I was ready to experiment.

"What can we do?" he asks. I think about "fun."

We've been working together for over half a school year so I suspect he knows what I'm going to say. "Why not let them do some writing about math?"

He tells me he already has them explaining how they got the answer and what the words mean and why they chose one formula over another.

"No, how about some point-of-view writing, where they write from the point of view of the math concepts? Listen, on my way in today I stopped at a Quick Shop and while I was on line to buy my stuff, I noticed the National Enquirer and the Globe and other things like that. How about we have them write about math for a gossipy tabloid?"

He's skeptical. "It'll be fun and interesting and a good way to review," I say. We discuss what kinds of things are in the Enquirer—gossip about celebrities and politicians, sensational crimes, sex, space aliens, horoscopes, recipes, and so forth. And he and I decide to each try writing something we can use as models.

One reason for my decision to work with Joe on this project was definitely timing. The other major reason for my willingness was my relationship with Joe and the trust that had developed between us. By this time in the 2007 school year, we had been working together for about six months. Through the New York City Writing Project group workshops that he led and through individual meetings that we had been having almost weekly, he had become both a friend and mentor. He had all the traits that I really admired in a teacher. He was funny, confident, prepared, organized, knowledgeable, experienced, and kind. And his techniques were effective.

From the first workshop he gave at our pre–school-year professional development day, I knew what he stood for as an educator. He used thinking, reading, and writing as tools to

deepen discussions and to foster student input. He had a masterful way of leading lessons designed to train students through exploration and discovery activities. I came to realize that this is the type of teacher I always wanted to be. And the strange part for me is that from the beginning he always made me feel like his equal. He treated me as if I were doing a much better job than I thought I was. He was always saying something nice about my students or my lessons or about me. It was very refreshing and encouraging.

Lee S. Shulman argues that "professional education is about developing pedagogies to link ideas, practices, and values under conditions of inherent uncertainty that necessitate not only judgment in order to act, but also cognizance of the consequences of one's action." (2005, 19)

To Tom, I must sound like I'm clear about the value of a math gossip magazine; but actually, our work together is a model of the "conditions of inherent uncertainty." But I know it is also a model of "cognizance of consequences." Through my years as a teacher with the New York City Writing Project, I have learned that writing, approached correctly, can deepen learning (Mayher, Lester, and Pradl 1983), foster self-expression (Martin 1976), nurture critical thinking (Fulwiler 1982), lead to clearer communication, and promote democratic community (Horton and Freire 1990). As a teacher-consultant, I constantly look for ways to bring these benefits to every classroom. I keep watch throughout our interaction to see that the work the kids do is not just "fun and interesting and a good way to review" but that the consequences of our work will be the promotion of student learning about writing and the learning of math through writing, as well as the improvement of Tom's classroom practice. I know that when Tom talks about "fun," what he really wants is to engage his students in the learning. He's ready for this, he's more than capable of it, but he needs someone to give him permission to try. As an NYCWP teacher-consultant, that's my job and my privilege.

Tom and I sit together with our combined knowledge, experience, beliefs, and goals, and I ask my big question, "How can I help?"

This is not an easy way to work. There is no continuum of teacher development laying out with neat linearity the steps I can follow in bringing Tom from beginner to expert in this area. I must hear what he is saying and asking, find his individual strengths as well as the places where he is open to growth, give him the confidence to try another way and then to reflect on what was gained as well as what was lost in this new approach. This kind of closeness to the person and the work, challenging though it may be, is nevertheless the most effective way to bring about change (Silin and Schwartz 2003).

Last year I happened to be struggling mightily both personally and professionally. I had a sense that Joe knew this and supported me all the more. As such, I looked forward to his visits to my classroom, our lesson planning sessions, and the opportunities to attend his workshops. With this all as a backdrop, I really would have agreed to any idea that he proposed last year.

We decide that Tom will write an example of an advertisement using polynomials and I will write a gossip article about angles. I have an idea about hypotenuse being involved in a triangle and, in a lunchroom conversation, someone gives me my headline: "Hypotenuse Caught in Love Triangle." Opening a math review book, I try to fit important terms into the story—right angle, acute angles, Isosceles, bisect, ratio. It is important to show I can be mathematically correct and still tell a gossipy story (see appendix A).

Meanwhile, Tom is creating a polynomial weight-loss system advertisement. "Multiplication Meals are wrapped in a special FOIL that maintains their freshness," he writes. "Factoring shakes come in two varieties, GCF and Two Parentheses."

Call them mentor texts or models, we are discovering what can be done by doing it. Tom wants the kind of classroom where the students are engaged and is coming to realize that it happens best when he is engaged with the same work.

When we finish our pieces we come together and share them. After he reads his I ask him to explain what FOIL and GCF mean. "'First outer, inner last' is a way to remember how to multiply polynomials; GCF is Greatest Common Factor. The kids all know this."

"Are you sure they do?"

Tom is not sure and suggests that perhaps he should revise his piece to put in an explanation. I agree, then change my mind. "Let's hold off on making changes. When we get to revision, it will be good to let them see that everyone has to do it. Also, letting them help with your writing process will make them more comfortable with getting help with theirs."

He agrees and we are ready to start.

To begin the project, Joe and I had the students look at some supermarket tabloids in small groups. This allowed each student to explore the pictures, articles, puzzles, advertisements, horoscopes, and other aspects of these gossip mags. I loved just walking around the room witnessing them reading, discussing, and playing word games. The enthusiasm was palpable. This was what I had dreamed of—math or no math, that day there was life in my classroom. And yet I seem to remember fighting the urge to rush through this play and discovery time to get to some *real math*. Luckily, Joe was with me, and I now had the experience and training to know that this would not be the prudent thing to do. Instead, we had the students share one thing that they had read or had discussed with their group. And this helped us to identify the themes and contexts that make up a tabloid.

The next day we gave every eighth-grader some guided free-writing time. Let me reiterate here that I was in the same uncharted waters as my students. What did anyone in the room know about writing tabloid articles? I simply had to trust Joe and the process. I was just hopeful that my students would do the same. And here was the first test of that

trust. To my astonishment, after some whimpers and meager protests, each and every kid produced an initial piece of writing that had something to do with a math topic that they were familiar with and was in the context of a tabloid theme. Of course, the amount and quality of the writing varied tremendously. However, everyone was involved. We were taking risks together.

It's a bit creaky at first, with students calling us over. "I don't know what to write." One after another they whisper the same thing. I look around, sensing failure of an idea, but see that a few kids are writing furiously. Tom and I tell the reluctant ones to forget about the math and just write the story. I can sense Tom's rising panic and watch him fight the urge to pull the plug. Eventually, though, all pens are moving. When the time is up we ask for someone to share. Several hands shoot up. "Redbirds on Drugs," one girl reads, and goes on to explain how the St. Louis Cardinals used a power-enhancing formula to defeat the Mets in the National League Playoff Series. The kids think it's great. Another one reads, and another. Watching the other kids I can see them looking at their own pieces and beginning to see other ways to approach them. We're relieved. But I realize that it was a near thing.

Tom suggests that, for his second class later that day, we tell them not to worry about the math, "Just write like a gossip monger." With this new freedom the freewrite goes much better. Some of them naturally put in the math based on the models, which is great when we do the sharing. They all have an interesting piece to share and to build on, and Tom is excited again.

It was obvious from those who read and shared aloud that writing with a tabloid voice was the easier part of the assignment. The difficult, confusing part was finding a way to put sensible math material into their stories. This came as no surprise to me. I had experienced this as I created my weight-loss advertisement. However, I eventually made a connection between polynomials and different types of weight-loss products, and there it was: movement, progress.

One of my students who shared that day, Rina Haroshi,¹ showed her classmates how creative she could be. She had a fictional account of how the St. Louis Cardinals had used an illegal liquid to enhance their performance against the New York Mets. She also had an idea that math could be involved in tracking down the source of the illegal substance. Well, by this point, I was just as excited as a teacher can be. In just two short days, I was seeing and hearing all sorts of questions and ideas. There was a motivation and stimulation throughout the room.

Around this time, however, my over-responsible and somewhat insecure tendencies began to stir. I thought to myself that things were going too well. I was happy and the kids were happy but . . . where was the math? Sure, Joe kept telling me that the math learning would follow, but I was not so confident. Also, my ego had me wanting to be needed; the students should be seeking my math wisdom, otherwise why was I there?

¹ Student names have been changed.

Well, fortunately these fears did not bubble over. Instead I agreed with Joe to let the students continue to research, write, and revise their articles with other students by way of peer review and editing.

The next day, all but one or two students have brought in completed drafts. Tom sets up the few students who were absent at a table to do the writing and asks me to help them get started. The others he organizes for the peer review we had planned.

Tom explains to the students the ways they can respond to a piece. "You may ask a question, make an observation, or point out a problem with the math. Let's back up a little and look at mine." He hands out the draft of his piece, "It's finally here, a Polynomial Weight Loss System that delivers what you need to lose weight. Multiplication Meals are wrapped in FOIL that will help them stay fresh. These are designed to distribute healthy goodness. We also have Organic Subtraction Salads with delicious KCC dressing"

"I think it's good," a student calls out.

"Well, that's nice, but it doesn't help me make it any better. Try to give me specific questions, observations or problems. Imagine you don't know the math, what could I do?"

"You have to explain FOIL but it has to sound like it's connected to the food." So he asks them to try to write it for him. We listen to their ideas. One suggests, "**First** the **Inner** part is made then the **Outer** is added on **Last.**" Tom pounces on this.

"Are we happy with her suggestion?" Some see no problem, but eventually someone sees that she has the letters mixed up. "FOIL is like oil with an f in front of it—the O comes first. Now try the sentence again. Remember it has to sound like it's about aluminum foil but really be helping us with the math."

After the new, corrected suggestions he chooses, "**First** it locks in the **Outer** minerals, then it helps the **Inner** vitamins **Last**."

"To last." amends another, and we have our sentence (see <u>appendix B</u>).

Looking ahead, a student says, "I have a suggestion for KCC." We listen to the idea, other students suggest modifications, Tom makes a final change and we have it.

Then Tom asks me to give them some suggestions. This seems like a moment to bring student empowerment a step further. I point out how when they identified problems in Tom's piece he had listened to their suggestions and accepted them, but in the end made his own decisions about how or if to incorporate them. "You own your piece," I tell them. "Listen to what others say and think about it, but in the end, you make your own decisions." Then Tom sets them to reviewing each other's work in groups of four. They take it seriously and things slow down as each reading is carefully gone over. Tom and I circulate, helping with math or writing questions. Tom whispers as he passes me, "This is going to take at least three days"—two more than we had scheduled. I can't wait for the period to end so we can talk. I want to tell him that these are the very days we've been trying to get to, that this is when the learning happens, but he has to see it for himself.

The math topics that they were using came from an excellent website that my students were familiar with. When I did see a student struggling to put math into his or her story correctly, I simply listened for where there was confusion and pointed the person back to the website lessons, which were designed for both new learning and review.

Herein lies the most interesting and fascinating part of the project for me. As the writing and the small groups continued to operate, I was freed up to meet with students individually without pressure to keep the class on task or under control. They were already busy and working hard. Even more important from a teacher's standpoint, the more time I spent actually seeing what my students had written, the more I was shocked by how little they had grasped from my other way of teaching. There were huge gaps in their understanding and many of them were fuzzy on even basic concepts that I would have thought they had down pat. As one student after another came to my desk, I had an opportunity to break down concepts for them and we had fun trying to fit our math concepts into the story.

Well, that is not totally true. It wasn't all fun; there were many, many instances of frustration and problems. However, the design of this project was to allow for problems because they are a part of the writing process. The writing almost always involves a great amount of reflection and revision. So why not try the same concept for learning math or science—or history, for that matter?

What a wakeup call this was for me—a veteran teacher who had been afraid to give up control and try different activities that might possibly get messy, but that give students a voice and respect them and their learning experiences.

In the writing project, getting teachers to reflect on what they have done is as important as anything else. It is in doing so that they learn the lessons that will inform their future planning and will shape the kind of teachers they will become (Van Manen 1995).

I ask Tom what struck him in each class. He tells me about the conversations; about the kids who need hand-holding and the ones who just need praise. He is taking his cues from the kids, responding to the needs they are able to express. The math is coming out and developing, not just through a problem that teaches the procedure, but through a piece of writing and revision that teaches the concept.

I want to cultivate in him this habit of looking at the good that occurs and trying to figure out how and why it happens; specifically, what **he** did to allow it to happen. Then I want him to cultivate the same habit in his students.

By now the amazing stories that make up the magazine were taking shape, and many students who were not big fans of my math class had come out of the corners to get involved. Rina's "Redbirds on Drugs" (appendix C) was still my favorite because, after revision, the student explained a way to add rational expressions that requires finding a least common denominator. Some of the other stories and horoscopes were equally impressive. "The Exponential Problem of Aliens" described the graphic nature of second and third degree functions, "Slope's New Boy-Candy" described slope in a fresh and dynamic way that I never would have dreamed of, and so on.

We have chosen one student's work to review together, to see how strong the math is. The piece is "Hilton and Britney Go At It: 'Cuz of Dilation's Truth."

I don't remember the math concept of dilation. To make sure the students do, Tom asks the author to explain it, using the whiteboard. She explains that it has to do with multiplying the sides of a rectangle by a single number to keep the proportions the same while increasing the size. Using a rectangle that is 2x5, with an area of 10, she then "dilates" it by 2 so it is now 4x10 with an area of 40. A student notices that the sides are twice as long, but the area is 4 times greater. Another notices that if you square the dilator, 2, you get 4 and if you multiply the area of the smaller rectangle by 4 you get the area of the larger rectangle. "Does this always happen?" a girl asks. They try it with different numbers and it holds true. "So if we want to know the area of the larger box, we don't have to do all the sides business, do we?" another student asks. "I guess not. Can we express it as an equation?" Five hands shoot up and together they decide on a formula for determining the area of a dilated rectangle.

Tom seems to be taking this in stride; I'm staggered. These kids aren't only learning math, they are discovering it! They're not only having fun writing stories called, "Radius and Diameter Fight for a Piece of the Pi" and "Sohcahtoa Me;" they are having fun with the math itself.

For me, this is the Holy Grail.

Amazing. I can't even explain all the ways that this tabloid idea changed my perception of myself and my students. I had been selling them short. They knew less in some specific math areas than I had first thought, but they knew much more in learning areas that I had never really thought to tap into before.

Over the next few sessions, the student pieces begin to take shape. Marc's "Dumplings Lead to Dimplings" piece about how Mr. X and Mrs. Y planned to have a trinomial family is three long columns of equations. His group members help him get more story built around the math. Rina's "Redbirds on Drugs" gives only a nod to math, so her group help her bring in more. Tom and I develop a grading rubric and share it with the students.² As they work individually, in groups, or as a class on each piece, they find problems with the math or the writing and work to solve them. And in this process, the review of math concepts happens productively but without the ego-bruising that usually accompanies the error hunt.

"Well, now we'll see," Tom says, after handing out his email address and giving the students a deadline for sending him their finished essays.

The pieces come in. Many are wonderful—Circe's Horoscope advice "Level yourself to your love's angle at 45°, and then you both will be able to truthfully complement each other" (appendix D). Some, though cleverly written, just throw math terms at the page as with Alice's—"In a nearby suburb where cats chase dogs and neighbors are always yelling and complaining lives Opposite and Hypotenuse and their child, Sine"

We ended the project by compiling the magazine and giving out copies and reading them. Our principal, other teachers, and students all gave us high praise. We even used the stories to make review sheets of concepts and formulas that we eventually studied for the math final.

I am so thankful to my friend Joe for his valuable training about learning, but also his training on how to work with and appreciate others in the process. In fact, that is the operational word for me when I look back on this project. Learning is just a process. It is going to be just as imperfect as the people who are involved in it. That doesn't make it a problem as much as it makes it exciting. What can be discovered next? Writing and thinking and questioning are the gifts that we can share with our students to help them see what they know and then share that knowledge with others.

Tom and maybe most educators are trained to think that the final product is the bottom line. I've come to see things differently and am thrilled that Tom has come to recognize that in work like this the **process** is the bottom line. When we worked together to use writing to enhance the teaching of math, we created a process that allowed for thousands of individual and group teachable moments. It was in those moments that the learning happened and no matter what the final pieces sounded like, the project was a success.

In the current paradigm of education as a product that can be evaluated in terms of test scores, the idea of accepting uncertainty is terrifying. How can you put money into something that seems so "squishy"? How do you sell professional development as a "journey of discovery" to a public that demands accountability for its tax dollars? Good questions in their way, but not the important ones for me. My question is How can you watch what happened with Tom's students and what is happening behind Tom's eyes and not see that this is real learning; this is real growth?

² For example, "91 – 100% = Writing demonstrates full understanding of the math content area used in the article; the context/theme of the article is interesting and relevant to a tabloid theme; there is strong evidence of revision and editing."

References

- Brunner, Jerome. 1985. "Narrative and Paradigmatic Modes of Thought." In *Learning and Teaching the Ways of Knowing*, The Eighty-Fourth Yearbook of the National Society for the Study of Education, Part II, edited by E.W. Eisner. Chicago: University of Chicago Press.
- Fulwiler, Toby, and Art Young. 1982. *Language Connections: Writing and Reading Across the Curriculum*. Urbana, IL: National Council of Teachers of English.
- Horton, Myles, with Judith Kohl and Herbert Kohl. 1998. *The Long Haul*. New York: Teachers College Press.
- Horton, Miles, and Pablo Freire. We Make the Road by Walking: Conversations on Education and Social Change. "Ideas." Philadelphia. Temple University Press. 1990.
- Martin, Nancy. 1976. "The Development of Writing Abilities" Chap. 1 in *Writing and Learning Across the Curriculum*, 11–16. London: Ward Lock Educational.
- Mayher, John, Nancy Lester, and Gordon Pradl. 1983. *Learning to Write/Writing to Learn*. Montclair, NJ: Boynton.
- McLeod, Alex. 1986. "Critical Literacy: Taking Control of Our Own Lives." *Language Arts* 63 (1): 37–50.
- Shulman, Lee S. 2005, Spring. "Pedagogies of Uncertainty." *Liberal Education* 91 (2): 18–25. <u>http://www.hivcampuseducation.org/liberaleducation/le-sp05/le-sp05feature2.cfm</u>.
- Silin, Jonathan G., and Fran Schwartz. 2003. "Staying Close to the Teacher." *The Teacher College Record* 105 (8): 1586–1605.
- Van Manen, Max. 1995. "On the Epistemology of Reflective Practice." *Teachers and Teaching* 1 (1): 33–50.

Appendix A

Hypotenuse Caught in Love Triangle

—Hollywood, CA, May 5, 2007 (Exclusive to **Math Enquirer**)

Hollywood has long held up Hypotenuse as an example of one of the more stable members of the movie community. His marriage to Right Angle was thought to be a model of timeless love. But this romantic image came crashing down with the release of a tell-all book by an Acute Angle who claims she has, from the very beginning, been part of a love triangle with the glamorous star.

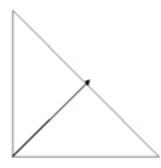
The acute little 45° told this reporter, "Sure, he's long maintained a relationship with his wife, but it's never been enough for him. He's a man with large appetites and he likes it hot— 180° to be exact."

Reached for comment, Right Angle at first refused to talk but finally broke down in tears and confessed, "There's always been a distance between us, but I know he loves me. So what if he's snuggled up with those two 45° bimbos. I've always been far more open with him and it's me he looks at all day long. Besides, it takes both of them to add up to one of me."

Hypotenuse would not agree to an interview but released the following statement through his lawyer: "I regret that the publication of this book exposes my private life to public scrutiny, but, yes, I have always been a part of an Isosceles Right Triangle.

"My two acute angles are of equal importance to me as their sides have a 1.•2 ratio to me. I couldn't exist without them, but frankly, it's my lovely wife, Right Angle, who is the only one who can ever bisect me. She puts the Special in our Special Right Triangle.

"I hope the public will respect our privacy from now on."



An exclusive photo of Hypotenuse at home with his acute angles being bisected by his wife, Right Angle. This is the picture he didn't want you to see.



COMPLETE NUTRITIONAL PROGRAM

Multiplication Meals are wrapped in special FOIL—First it locks in the **Outer** minerals, then it helps the **Inner** vitamins to **Last**.

Designed to *Distribute* healthy goodness.

Also featured—*Organic Subtraction Salads*—with special KCC dressing, allowing you to **Keep** your shape, while you **Change** your eating habits and **Change** your future.

Don't forget our *Factoring Shakes*—to avoid sweets and snacks. They come in two varieties—*GCF and Two Parentheses.*

GCF—one set of parentheses and tastes like there is something in common between two or three different ingredients that are used to make them.

Two Parentheses—two parentheses and uses the same FOIL technique that keeps our meals at the peak of perfection.

CHECK THEM OUT FOR YOURSELF!

(A Tom Murray Company, Inc.)

Appendix C REDBIRDS ON DRUGS

Last week, we might have found the shocking conclusion to how the St. Louis Cardinals beat the New York Mets out of the World Series last season along with the Detroit Tigers. After the game, one of the reporters went over to the Cardinals to congratulate them for their victory. Then, after all of the tiring interviews with the players, she went to their bullpen and had a cup of Gatorade. The reporter claimed that the Gatorade tasted funny and instantly gave an adrenaline rush. So she took a sample to her friend Add.

The algebraic lab saw that the strange tasting drink contained a power boosting expression, 3x/5+2y/x, that needed an lcd. They took samples and made them undergo more tests so they can combine these unlike fractions. It was very clear to Mr. Add Numerators Only that there were high levels of steroids inside of the Gatorade, but he had problems finding the lcd. He brought in denominator specialists to discover what the lcd is. Then, finally, they got down to one common denominator—Yadier Molina, the catcher, also known by the uniform number 5x. This, however, did not completely solve this expression, because they knew that another person had to be teamed up with 5x. They soon found out it was the team manager. The manager had multiplied x to the left fraction and then 5 to the right, making the chemical very active. 5x and the manager were sent to trial and they both pleaded guilty to contaminating the Gatorade with power boosting expressions. The court came to the conclusion that 3x/5=2y/x came to $(3x^2+10y)/5x$ which is a pretty high dose of steroids. Their case was filed as the perfect in"fraction". The Cardinals had wondered why 5x was drinking so many cups of Gatorade that night, leaving the Mets behind as only East Division winners. The jury decided that 5x is suspended from the next season and the manager will be fired.

Appendix D Math Horoscope



[September 23- October 22]

-Be truthful to both sides of your opinion, and all your problems will be solved easily with just a little numerical sense.

-Level yourself to your love's angle at 45°, and then you both will be able to truthfully compliment each other.

-Your crush, KCC, might not always be there, but your friends, PEMDAS, will.

-Keep with the number 180; it adds up to be the triangle to represent your three perspectives of life.

-Do not be afraid to be blue, which four letters represent your four friends who are most important to you.

-It is okay to be daring on days divisible by 2.



[October 23- November 21]

-You must realize that it is not your side of zero that matters; it is your absolute value. -Stay still; do not rise and run from the other line intruding on your grid of love.

-The probability that your friendship with that person will last is 25% now. Increase the portion of understanding and spin. Maybe then you will have a chance of a BFF.

-2, 5, and 7 are lucky numbers since they are your first three prime numbers.

-Stick with yellow, the third color of the rainbow; 3 is after all prime and odd; independence is good for you today.

-On days of 4/4, 2/4, ¹/₄ moons, stay indoors. Fractions will be harmful towards you this week.



[November 22-December 21]

-Though you think of your life as an isosceles right triangle, look again and try a specific formula; you will see that with a hyp. The same as a leg, you are living not a right triangle life, but an equilateral one instead.

-The parallel lines which have formed in your life cannot be parallel with only on line. -Your friend and you are adjacent; don't go making distance from one another.

-Your lucky numbers are 45 and 90, because 90 is the right angle and 45 is the degrees of the 2^{nd} angle you need to be right.

-Your lucky color for this week is red, because it has 3 letters for the square root of 9. -Stay cautious on odd days.