

SASHAYING THROUGH A FORMULAIC HELL

Gabriel "Knox" Motta

Chapter A

"My math teacher should just quit and leave me the hell alone!" Danny uttered from across the table. His mother looked up at him. She was more disturbed by the interruption of her scrutiny of the morning mail than intrigued by the comment. Danny had a spoonful of cereal and insisted, "He should! He really should."

Of course, Danny hated math. He had always been an English person, interested in words and art. Literature was his niche, and was undoubtedly responsible for his fancy vocabulary. By the age of five, he had finished his *Disney* book collection. By the age of seven, he had finished the *Harry Potter* series. By the age of nine, he had completed *The Lord of the Rings* trilogy. By the age of eleven, one of his short stories had been published in the school newspaper.

All through elementary school, Danny had to put up with darn math. Addition and subtraction were feasible. Multiplication and division were manageable. Power and roots were acceptable. Equations and graphs, however, were repulsive. *Why would I care if X equals 16 or -29 or 3.97?*

"Bullshit."

"Daniel!" his mother shouted, upset.

He cringed, confused. "Did I say that out loud?"

"Yes!"

Poor Danny. He was so annoyed by middle school and what he was going to face, he could hardly contain himself. He had always been quite precocious. A genius, some people called him, maybe

not for math, but certainly for almost all the other subjects. And at the age of 13, he thought that he was already supposed to be attending a university, reading novels by Charlie Dickens or academic essays by Noam Chomsky. Definitely not wasting time with X, Y, or Z. He thought the variables of life were more interesting. Astronomically more complex, incontestably more relevant.

"Pass me the sugar, would you."

The request broke his concentration. He obeyed and asked, "Mom, why do I have to study math?"

"I don't know." She sweetened her coffee and unfolded the newspaper. Danny's mom was a woman of few words, especially when dealing with trivialities. And she wouldn't indulge Danny on the common denial of scholastic activities. At least not on a Wednesday morning. "Ask your teacher."

Disappointed, Danny scowled. He thought he was entitled to a real answer. After all, day after day, month after month, year after year, it was his life that was being reduced into inconsequential numbers.

His father joined them at the breakfast table. Dad was a lawyer, the type who liked to prove points and defend theories. He peeled a banana and turned on the TV while eating. Danny was still eager for an answer.

"Dad?"

"Yes."

"Why do I have to study math?"

His father, focused on the TV, didn't hear the question.

"My math teacher should leave me the hell alone!"

The loud, aggressive comment drew his father's attention. "What?"

"Mr. Spokiwitz should just quit or die. And why must I submit myself to studying math?"

"What do you mean, 'why?' You have

to study math so you learn math." His father was getting more upset by the second, though he considered the conversation necessary.

"I don't need math. Nobody needs math," Danny affirmed eloquently while staring at his dad. His appetite was gone. The cereal bowl was half-empty. "Maybe we once needed it, but not anymore. Now we have computers and calculators. We have software. With the click of a button, we find out wonders." He took a deep breath. "Honestly, what is the actual applicability of math in our daily lives? Do we drive our cars trying to figure out through the uniform motion equation how long we're going to take to arrive at work? Do we really graph the time we spend cooking dinner or watching TV?"

His father held the coffee mug by his lips, but he couldn't sip it. He was getting more and more engrossed by the conversation, and Danny's thoughts.

"I'm also not that enamored with numbers either, but one stupid enemy at a time."

His father frowned and protested, "What about a clock? How can you have a clock without numbers? And how can you make appointments without a clock?"

"Please, dad." Danny sounded upset as if about to explain an obvious point. "I learned how to read time when I was seven. And not in math class, or by influence of my math teacher."

His father rubbed his temples as though to squeeze any other pro-math argument, but he couldn't think of one. Maybe he was distracted by the TV or worried about work. He couldn't. He couldn't come up with a reason for his son to study math. "Ask your teacher," he ordered, "and go get ready."

The school bus honked in the distance

outside. Danny's bowl was still half empty, but he got up and rushed upstairs.

Chapter B

Danny's hand rose during math class, which was, by itself, a rarity. His classmates and instructor were bewildered. Some of the students thought that he was probably too smart for math, but that couldn't be further way from the truth.

Mr. Spokiwitz glanced at Danny. "Yes?"

Danny took a deep breath. On the blackboard, there was a linear equation of two variables and its corresponding graph. Danny was tired of that pointless drivel. To him, there was not an iota of purpose on that lesson. So he pointed at the board and inquired, "Why is that important?"

Mr. Spokiwitz frowned. The question annoyed him. He turned toward the board and, while churning out another equation, answered resolutely, "it's gonna be helpful for your future. There's a test next Monday."

What a stupid answer! Bullshit. He knew, without looking at the syllabus, that variables, coefficients, equations, and graphs would all be topics on his exam the following

Monday. But why? Why is algebra important? If mathematicians enjoy solving equations, let them have it. For most people, equations are a monumental boredom, surpassed only by their colossal futility.

"Excuse me, Mr. Spokiwitz." The instructor scowled, but turned to face Danny and the other students once again. "I know that equations are on the test. But why?"

"I chose so," Mr. Spokiwitz stated, "along with Mr. Ludin and Mrs. O'Hara. Plus, it's a part of the national curriculum

Don't need math.
Nobody needs math,"
Danny affirmed elo-
quently while staring
at his dad.

for your grade."

"And why is that?"

Mr. Spokiwitz was fuming in a quiet way, but he was getting aggravated. He also felt a sense of instigation on Danny's last question, and feared the class would heed the call, and steam towards a possible insurgence.

Danny was glaring at his teacher. "Why can't we students concentrate on more important subjects? Do we really have to sit here and put up with this excruciating mathematical nonsense?"

The teacher tightened in silent despair. Danny continued. He knew that his behavior would probably lead him to detention, or a very exclusive interview with the principal, but he endured. There was a point to be made. How many years had passed with no one fighting? How many students had suffered needlessly over nothing? How many young geniuses had their intellect used to calculate minutia?

"Calm down," the teacher ordered.

"Mathematics is an essential tool to every science on the planet."

Danny rose from his chair and stood amidst his fellow classmates. "Bullshit!"

"Go to my office and wait there!"

Mr. Spokiwitz's office was how Danny pictured hell. The walls were covered with algebraic formulas and geometric figures. Trigonometry had a special section on the West wall. If anything, Danny was content for having skipped an encounter with the principal or detention. *So far*, he thought.

Mr. Spokiwitz entered two minutes after the bell. He wasn't happy, Danny could tell. In one hand, he held his cup of coffee. In the other, a newspaper opened to the Sudoku page. Mr. Spokiwitz sat down behind his desk and started solving the puzzle – a fruitless entertainment that always ended inside the trashcan under

his desk. Nevertheless, he still indulged in the game. Without glancing at his apprehensive victim, he inquired, "What's wrong, Danny?"

Danny took a deep breath before answering. He was lost in contemplation, as he realized that the man sitting before him was probably knowledgeable enough to accomplish great feats. Yet Mr. Spokiwitz was glad for solving his daily Sudoku. Danny did not appreciate that. After all, day after day, month after month, year after year, this man's lore was being wasted in a mindless, senseless, purposeless puzzle.

"This is wrong."

When the answer finally came, it didn't satisfy. Mr. Spokiwitz wasn't sure about what Danny was referring to. He looked at the young boy and frowned inquisitively.

Danny was as serious as he could be. "You're wrong."

"I beg your pardon." He dropped the puzzle on his desk and glanced at Danny. But before he could say anything, another question struck him:

"What is this game?"

Danny asked.

Mr. Spokiwitz turned the Sudoku page toward the teen and attempted to explain:

"There are nine big squares inside this big figure. Inside each one of these nine squares, there are nine small ones. The game is: each row, line, and square must contain..."

Danny's petulant, obstinate hand rose to interrupt him. "I know all that, but what do you do afterwards? When all the numbers are filled in?"

Mr. Spokiwitz stuttered, doubtful. "Well, I throw it away."

"What a fitting end for a pointless game," Danny commented sardonically. "Why waste the time? Why not focus on a relevant task, an altruistic mission

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where people can benefit from your accomplishments? Even if you want to profit from it, why not aim for something that will endure and prevail? Why not aim for something – anything – that will not end up in a trashcan and then a landfill or possibly recycled as a toilet paper?"

Mr. Spokiwitz felt a tingle in his spine. Danny's argument was such a pungent one that it provoked an awkward pause in the conversation. Danny noticed him wince. Mr. Spokiwitz rose from his chair and approached the window. His comfort zone was shrinking and his solid metal empire crumbling. "I never looked at it this way."

"There's no other way to look at it. Unless you prefer the self-delusion path."

Mr. Spokiwitz's mind swerved astray from the conversation. A flashback brought him to a young boy, playing with test tubes, who once wanted to be a scientist and as such, change the world by finding the cure for cancer or AIDS. *What happened to that young boy?* he asked himself. What a bleak recollection. Frustrating at best, he considered it.

Danny waited a second, and then attacked, "Why live? What's your purpose in life?"

"I enjoy teaching. And some students enjoy learning. I may not be the funniest, most outgoing teacher in the district, but I like to think that I'm better than average. And even if I'm not, students still must learn the subject."

"Must we?"

"Absolutely."

Danny was shaking his head. His teacher took advantage of the silence:

"Am I not just the same as a history teacher? Or a science teacher? Or an English teacher?"

Danny shook his head again, but more vigorously this time. Then he stopped and stared deeply into his Mr. Spokiwitz eyes.

"How can you even say that? We need history, science, and English out there. Outside these walls, we are more than mere students. We are people. We are *real* people facing the *real* world, with *real* challenges, seeking *real* solutions. History: we study the past to understand the present. We study the present to improve the future. We have tradition. We have ancestors. We have culture. We have history. We are history, and history is us."

Mr. Spokiwitz was transfixed. Danny was just warming up.

"Science: anatomy, biology, health... Are you telling me that learning the causes and symptoms of diabetes or smallpox is as useful as being able to draw a graph that represents a quadratic equation? Or finding the values of X and Y and Z in a meaningless polynomial? Knowing the differences between an artery and a vein may not help you, but this is what we are. We are made of blood and cells. We have bones and organs. Are you telling me we should not learn that?"

Mr. Spokiwitz said a silent "no" to himself. Danny continued:

"There is a living world around us, a breathing environment with an amazingly vivid and vital flora, fauna, and climate. They govern us, what we eat, how we live. And you said English? How could you even mention English? I could offer you a whole set of arguments to support English, I could spend hours defending it, but we are already speaking it." Danny paused. "Aren't we?"

When Danny finished, Mr. Spokiwitz glanced at his watch. "Oh, look at the time. We will have to adjourn for the day, Danny. But I still have *my* set of arguments for you to hear. Could I call your parents to schedule a dinner at your house?"

Danny waited a second, and then attacked, "Why live? What's your purpose in life?"

Chapter C

The dinner at Danny's house was scheduled for a Friday evening. Mr. Spokiwitz showed up on time. They ate spaghetti, but Danny lost his appetite way before his teacher arrived. He fumbled with his food and barely ate any. His plate was left half-empty.

Appropriately, both Danny and his teacher were evading any school-related topic. Even when the parents tried to broach math, the duo was cunningly successful in dodging and rebounding the conversation into something else.

After dinner, Danny showed his bedroom to Mr. Spokiwitz. As soon as they entered, his teacher quickly realized that there was nothing utterly different about Danny. He had been brought to a quintessential pre-adolescent American's bedroom. Messy with all kinds of junk and toys, but more books than expected.

Danny took some clothes and magazines from his bed and threw them into the closet. "You can sit here if you want."

Mr. Spokiwitz ventured further in and sat down on the bed. With a quick perusal of the bedroom, he observed that in the trashcan under Danny's desk there were three notebooks. He reached for them and leafed through the pages of the first one. It was cluttered with equations and graphs. No blank pages remained. He checked the other notebooks and noticed that they all contained algebra exercises and formulas.

"They are all old ones," Danny informed, while taking a seat at his desk. "It's almost uncanny the amount of paper you waste to solve those. And I'm only one student. Can you imagine the entire country? Or the entire globe? Above all

else, math also seems to be a disservice to forests worldwide."

"Don't be bitter, Danny. Days ago you told me why we needed history, science, and English. Now allow me to explain to you why we need math. You may not know it, but Math is inherent to virtually everything around us."

Danny lifted his hand to interrupt Mr. Spokiwitz. But this time Mr. Spokiwitz didn't grant permission and continued:

"This very house could not have been built without math. Or this desk. Or this notebook. Or that TV over there. Math is intrinsic to every part of machinery that you can find in a factory. This watch functions on math. So does your cell phone. The program used to design the cover of your favorite book would not operate without math. Calculators themselves are manufactured with math. And without it, they wouldn't be."

At the end of Mr. Spokiwitz's quick

speech, Danny remained resolute and unbending. "I'm won't dispute that. I have no doubt that there are a few select individuals who should learn math. And I also think that the essential opera-

tions, from addition to division, should be taught to everybody, because those, I admit, we all need at some point. But equations, polynomials, factorization. What do these names really mean? I hate when mathematicians throw some variables together, give it a fancy name, and pretend it is something relevant."

"Danny, we live in a competitive world. When students plan to apply for a college or a university, math proficiency is just one of the several ways to qualify or disqualify the applicants. "

"And I despise whoever created that and whoever decided to keep it. Think about it. If math is not that useful or relevant, why consider it as a means

Danny took some clothes and magazines from his bed and threw them into the closet. "You can sit here if you want."

for an evaluation. If you wanna be an architect, or an engineer, or a rocket scientist, by all means, study the darn calculus. By all means, qualify those who deserve it, but spare the rest of us."

An awkward moment of silence lingered. Danny stood up and gingerly took the notebooks from his teacher hands. He threw them back into the trashcan and sat down. "Trust me, Mr. Spokiwitz. You do not wanna end up like these notebooks in the trashcan. Or that stupid puzzle that you always do. What will you leave behind when you pass away?"

"My children, and their children after them."

"I mean for history," Danny clarified.

"Not much, I suppose." He gulped. "Your desire for immortality is not without a reason. But most people don't ever achieve it."

"I'm not asking you to achieve it. I'm asking you to at least try and care. Create something that will outlive you. Cast your star in the firmament of great accomplishments and become immortal. The math taught in schools and universities is much older than us. And then, guess what? When we are out there in the real world with real people and real challenges, factoring trinomials doesn't help... at all."

Mr. Spokiwitz rubbed his temple. "But schools are required..."

"So we must change that. What we do now will change the future forever. We are the dawn of tomorrow. Don't you agree?"

Mr. Spokiwitz was astonished. His face was quivering, displaying contesting emotions. "I don't think you will ever understand, Danny. This is useless." He rose from the bed and walked out of the bedroom without wishing goodbye.

The principal was the first one to learn the news. Even before telling his wife and

his children, Mr. Spokiwitz called the headmaster early Monday and informed him of his decision and the reason for it. The principal then told the faculty and staff.

Math classes lectured by Mr. Spokiwitz were cancelled for the day. Students cheered. Then the headmaster called Danny.

The phone rang during breakfast, but nobody made a motion to answer. Danny and his parents were in the kitchen, eating. The machine finally picked up, and the principal disclosed that Mr. Spokiwitz had quit his job.

"Mr. Spokiwitz told me that after talking to Danny, he realized that he had a bigger purpose in life. So he's going out of state, didn't tell me where, to study to become a scientist or a science teacher. Crazy idea if you ask me. But that's what he told me. I would like to see Danny in my office as soon as he arrives today. Thanks, and good day."

Danny's parents were staring at him. His father was glaring, demanding some sort of comment.

Danny sneered smugly and uttered, "Point made!"

Spokiwitz rubbed his temple. "But schools are required..."

