The Math Professor
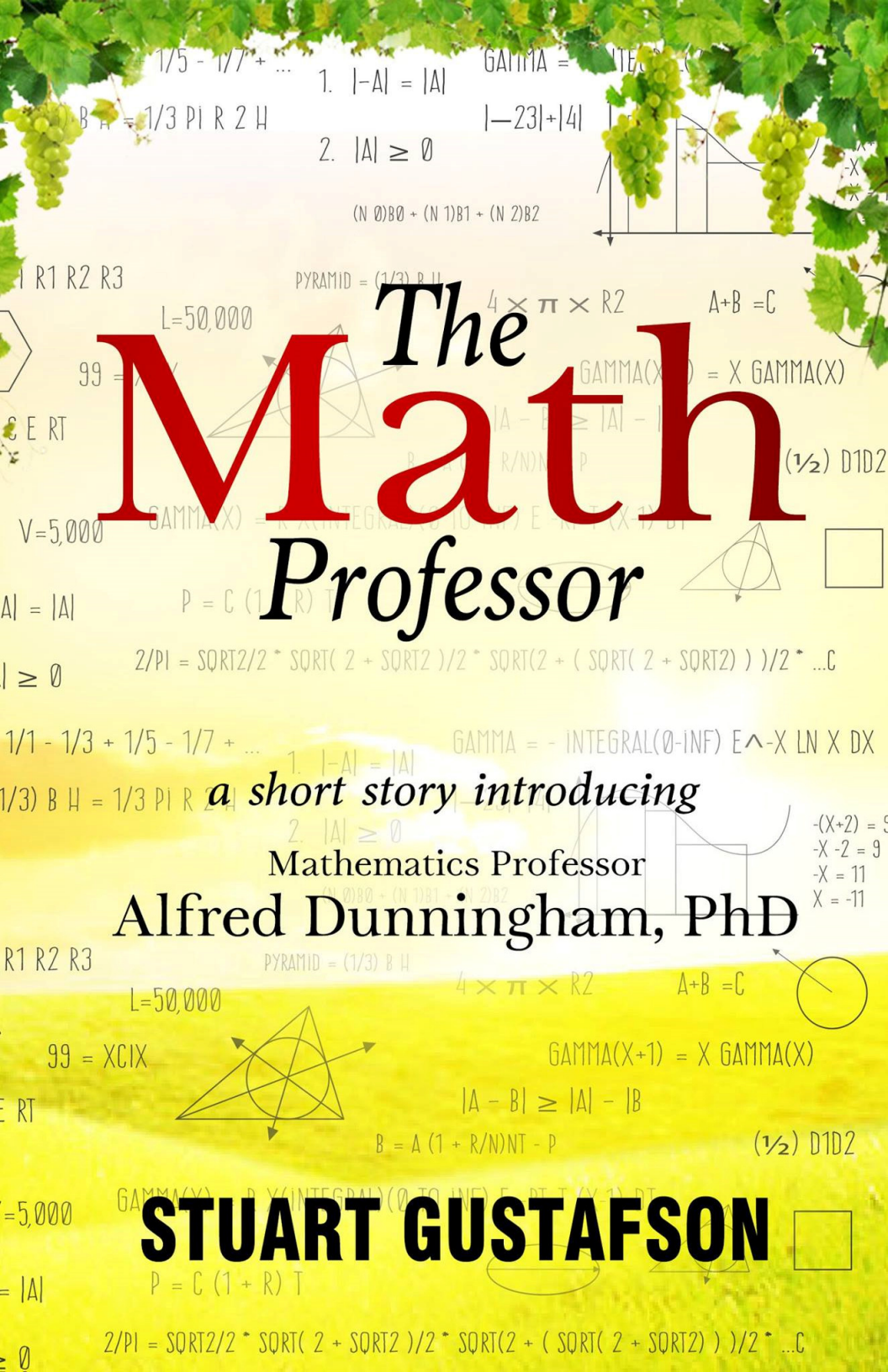
a short story introducing

Mathematics Professor
Alfred Dunningham, PhD

STUART GUSTAFSON

The Math Professor

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The Math Professor

The day's projected high temperature of 78° Fahrenheit had been reached by eleven in the morning as the sun was still moving skyward toward its apex. Although the calendar said it was mid- to late-Autumn, the weathermen were saying that the Indian Summer weather would continue for several more weeks. That would be good news in most parts of the country, but the grape growers in Napa and Sonoma counties in northern California didn't like it. Their trimmed vines should be resting in November, but the warm weather was sending signals to "produce," and small shoots were beginning to develop across the area that produced most of the grapes that would become California's fine wines.

His grapes had been harvested months earlier and his vines had recently been prepared for the off-season; Alfred Dunningham was enjoying the beautiful weather. He was walking through his rows of roses that he enjoyed so much, looking for aphids or any other pests that wanted to hitch-hike a ride on his beautiful plants. The way he was more concerned with his roses than his grapes might make one wonder, but Alfred actually did care more about his roses than the grapes. He grew the grapes for harvesting; the roses were for enjoyment and pure delight.

Alfred and Sylvia Dunningham lived on one of the smallest parcels of agricultural land in Napa Valley. Growing and harvesting grapes for wine was not profitable on tracts smaller than one hundred forty acres, something that Alfred Dunningham, PhD, saw as an advantage when he made his low-ball offer on the ten-acre parcel that contained nine plus acres of Shiraz grapes, a rose garden, and a lovely house. The math professor was more interested in the roses than he was in the grapes vines that he viewed as "a possible nuisance." He even used those words in his

written offer to purchase the property. Alfred knew numbers, of course, but he also knew how to present numerical facts in a seemingly obvious way to his advantage. Sylvia didn't always understand what Alfred was doing, but she trusted her husband of forty-two years to make the decisions that were best for them.

They'd met on a blind date while they were both attending graduate school. Alfred's interest was in math, specifically in Number Theory, and Sylvia's studies were in English Literature. It wasn't a match that couldn't have come together in any other way, but mutual friends thought they'd be an ideal couple. And it's worked out pretty well for the four of them.

"Alfred, dear, I have lunch ready for you." Sylvia's voice was always so calm and endearing. She and Alfred were married soon after they'd each received their Master's degree, and she had designs on continuing her research in the U.K. while her new husband was attending Cambridge. But once they were in England and Alfred was deep into his Doctoral studies, Sylvia realized that there was much more to life than mythical stories about the English countryside.

The music that Alfred was listening to when Sylvia offered lunch was coincidentally a piece composed by Ralph Vaughn Williams, an enigmatic English composer. Alfred preferred music that was in standard form, musically timed to a rhythmic beat. He knew that his need for mathematical arrangements was an uncharacteristic abnormality. But that's who he was and that wasn't going to change.

Realizing that her husband hadn't responded to her call for lunch, Sylvia continued, "Would you like to eat indoors or outdoors? I can bring the place settings out there for you."

"Out here would be absolutely delightful; this weather is just amazing." Alfred Dunningham, a Number Theory professor and one who found relationships with numbers in almost everything he

encountered, also enjoyed the peaceful nature of his rose garden. The aromatic elixir that emanated from the blooms would be intoxicating to "mere mortals," but not to Alfred.

"Shall I join you?" Sylvia asked as she carried a tray from the house to the picnic table where Alfred was sitting at the edge of the rose garden.

"Of course, dear," Alfred replied. "Let's enjoy eating outside while we can." The two engaged in some small talk as they were eating their sandwiches and fruit salad.

"Speaking of art," Sylvia interjected, "what are we going to do with the new piece that we just got?"

"You mean the one that was in exchange for the grapes we gave him?" Alfred was fairly sure he knew which piece of art she was referring to, but he didn't like any ambiguity.

"Yes," his wife replied.

"I'm sure we can find a place to hang it. If not, I'll find a place in my study."

Living on almost ten acres of prize Shiraz grapes did have its advantages. One was that the closest neighbor was a half mile away, but the best one was that the Dunninghams had struck a deal with a local vintner who would maintain the vines, harvest the grapes in exchange for keeping them stocked with wine and give them a piece of art each year.

A fast eater, Alfred waited for Sylvia to finish her lunch. "It was very good; thank you for lunch."

"You're welcome, dear," Sylvia answered.

"I'll take the dishes in," Alfred continued, "and then I need to do some work on the next semester's lesson plans."

"Then let me do dishes," his wife responded, always the helpful and considerate one.

"I'll do them; they'll take only a couple minutes, and the dishwater will be good for cleaning my fingernails." Alfred got up,

picked up the plates and utensils and carried them into the kitchen. Sylvia smiled as her gentle husband entered the house; besides being very intelligent, he was also a kind and caring man.

Alfred washed, dried, and put the dishes away, wiped down the counters, and then retreated to his study. There were only a few more weeks of classes at Northern California State University before finals and the winter break. As Chair of the Number Theory Department in the School of Mathematics, Alfred Dunningham, PhD, was always in demand, both for classes and for giving talks. One of the perks of being a department chair was that he had several graduate student Teaching Assistants available to him, and he was able to arrange his schedule so that he didn't have any teaching classes this semester. He was thoroughly enjoying his break from the classroom and spending time tending his roses.

As he sat at his desk, he opened the email program on his computer; it was no surprise that he had 16 new emails just since the morning when he'd last check it. He was able to delete most of them, but one of them caught his attention. He opened the email and saw that it was an invitation to speak at a conference in Singapore. The conference title was "Innovative Ways to Solve Crimes"; the invitation included a personal note from the conference director, a man Alfred had met several years ago in New York City.

The note from the conference director specifically asked Alfred if he'd give his presentation, "Detective Work Made Easier Through Mathematics," a talk he'd given many times to police departments around the world. This would be the first time he'd give it to a general audience, but it wouldn't require many tweaks to make it audience-appropriate.

Alfred printed the email, checked the dates against his own calendar, and walked out of the study. He saw that Sylvia was still sitting outside, although she was now reading one of her

magazines, a favorite pastime of hers. She looked up as she heard the screen door open and Alfred was walking in her direction. She set the magazine on the table and smiled at her husband.

"Yes, dear?" she asked.

"I just received an invitation to speak at a conference in Singapore, and the conference director asked me to give my presentation, 'Detective Work Made Easier Through Mathematics.' It's during Spring Break next year so the timing works well. Would you be interested in going?"

Sylvia thinks about the question as she turns her head from side to side. "It could be interesting as I've never been there like you have. What do you think; do you think I'd like it in Singapore?"

Alfred was pleased that his wife showed interest in going with him, not that he'd made up his mind yet. He didn't have all the details; the invitation was really more of a query to see if he was interested and then the conference director would work out the necessary arrangements.

"Well," he began, "you're not much of a shopper, so that part wouldn't interest you. But they do have an amazing Botanic Gardens that has one of the best orchid gardens in the world, so I think you'd like that part."

"Would I have to go to the conference with you?"

"Not if you didn't want to," he replied. "The conference title is 'Innovative Ways to Solve Crimes,' a subject I don't think you'd be that interested in. You could go if you wanted, but you don't have to. I haven't seen all the details yet; the invitation just came in, so there's no need to rush to an answer yet."

"If it's okay with you, Alfred, I'd like to think about it."

"That's fine," he responded.

A puzzled look came across Sylvia's face as she looked up. "Do you *really* think that mathematics can be used to solve crimes

and other mysteries?" I know math and numbers are your thing, but can they actually help the police find their suspect?"

A wry smile came across Alfred's face. Sylvia's question was one he'd heard many times before. It was a valid question; he knew that. He pulled out a chair, sat down, and placed the email copy on the table. "The short answer is 'Yes.' Let me give you some examples how numbers can come into play in certain situations." Alfred continued with what was essentially the basics of his presentation that he'd given about a dozen times.

Sylvia listened intently as her professor husband explained linkages between numbers and criminal patterns and habits. "I know, dear. But can they actually help or lead to solving a crime? I don't doubt you; you know that."

Alfred took in a big breath and let it out slowly. It wasn't a sign of exasperation; it was a method he used to assemble his thoughts in an organized manner. "You have a good question, and it's one that comes up every time I give my presentation. Obviously there are some situations such as random shootings or workplace violence that have different motives behind the actions. But here's the real catch. It's typically the intelligent criminal, the one who's thought it all out and has the perfect plan, who leaves a pattern. And that pattern usually has connections that are mathematically linked." Alfred knew he hadn't convinced his wife, but he also knew that he didn't have to.

Sylvia nodded her head. She was intelligent herself, there was no denying that. And she wasn't the only intelligent person who didn't always understand what Professor Alfred Dunningham, PhD, was saying. "Would you like some tea?" she asked.

"That would be nice," he said as Sylvia got up and went into the kitchen. Alfred picked up the printout and began to re-read the email invitation. It had been several years since he'd been to

Singapore. He'd liked it then, and he'd read about some of the many modernization projects that were taking place.

Sylvia returned with a cup of freshly brewed tea, set it on the table, and turned to return to the kitchen.

"Thank you for the tea," he said absent mindedly; his thoughts were about Singapore, the ending semester at the university, and where to hang that new piece of art.

Alfred heard the telephone ring, but he didn't consider himself to be a slave to the phone. His theory was that it was his phone, their phone, and they were the ones paying for it. So if he didn't want to answer it, he didn't have to. That's what the answering machine was for.

Sylvia, on the other hand, had to answer every phone call. Perhaps it was her upbringing in a household where her dad was a veterinarian doctor and her mom was a nurse. Answering the phone in that household was important, especially to the people who were calling.

"Telephone, dear," Sylvia called out through the screen door.

"Would you take a message, please?" Alfred responded.

"The man said it was very important."

"They all say that."

"Alfred." Sylvia's tone turned insistent. "The man said he's calling from Australia. Can't you show him a little courtesy?" There were times when Alfred's habits and manners weren't to Sylvia's liking. This was one of those times.

"Okay," Alfred acquiesced. "I'm coming." Alfred got out of the chair, picked up his tea, took the email, and headed into the house. "I'll take it in my study," he said as he walked through the kitchen.

Sylvia gave him a kiss on the cheek as he walked by her.

Alfred went into his study, closed the door, set the tea on the desk, sat down in his comfortable brown leather chair, and pushed

the Speaker button on the phone. "This is Alfred Dunningham," he said.

"Hello, Professor," the Aussie voice on the other end of the line said. Alfred tried to recognize the voice, but he couldn't recall hearing that voice before.

The Australian introduced himself as being from the New South Wales Police Force in Sydney, Australia and that he reported to the Police Commissioner Colin Martin.

"I remember your commissioner. He was quite the lady's man at a party in Singapore." Alfred's mood lightened as he engaged with Deputy Chief Inspector Graeme Farnsworth. The men chatted for a few minutes, and then Farnsworth got to the point of his call.

"Professor, the reason for my urgent call to you is that we need your help in solving a series of murders here in Sydney. The commissioner mentioned your seminar that he attended, something about using math to solve crimes."

"It's called 'Detective Work Made Easier Through Mathematics,'" Dunningham interjected.

"Right, mate," Farnsworth answered. "Anyway, your assistance is greatly needed."

"Okay," Alfred said tentatively. "How can I help you from here?"

"That's precisely why I'm calling. We'd like you to come to Sydney as soon as possible." Farnsworth went into some of the details of the murders: no signs of struggle; each victim had a similar tattoo, and each one was in a prominent location.

There was silence as neither man was saying anything. Graeme Farnsworth was waiting for an answer and the professor was developing his response.

"Yes, I see you do have yourself quite a problem, Mr. Farnsworth. But I'm not sure that I would be much help as I think

the numbers on your victims are probably just some gang markings, especially since they're inside a triangle."

"We thought that, too," Farnsworth answered. "And our gang unit found no recent activity that would indicate that."

"I'm not interested anyway," the professor replied. "I'm thoroughly enjoying my semester away from teaching so I can tend my roses. You can tell Colin that I'm flattered that he thought of me, but the answer's 'No,' and especially on such short notice."

Graeme Farnsworth wasn't going to take "No" for an answer. He talked about the parents of the victims and how they were seeking answers just like everyone else. He'd made his case, and now he just hoped that the professor would change his mind.

There was awkward silence as Alfred knew this would be a real opportunity to prove that his theories about the connections between numbers and crimes were accurate. But he also didn't like to be pressured into decisions without the proper amount of time to think about them.

"In hoping that you would agree to come help us on such short notice, I've booked you a seat in Business Class on tonight's United flight 863 from San Francisco to Sydney. I can add your email address to the reservation if you'd give it to me."

Alfred pushed the Mute button as he took a sharpened pencil and began to tap the eraser end on his desk. He had quite a decision to make. He set the pencil down and took the last sip of his tea. The tapping resumed as he pondered the dilemma.

About the Author

Stuart Gustafson learned the love of travel at a very young age when the family moved often as his father was in the US Navy. The frequent relocations also ensured that he was able to establish new friendships as well as integrate into established ones. He was born in Southern California, and while he moved many times as a youngster, Stuart ended back up in San Diego where he met and married Darlene Smith in 1974. They have one daughter, one son, and one rescue dog

His formal education includes a B.A. in Mathematics from San Diego State University and an MBA from the University of San Diego. He spent twenty-nine years in high-technology endeavors, including a move from San Diego to Boise, Idaho, in 1993. He took early retirement in 2007 to devote more time to writing, traveling, and spending more time with his mother who lived to the wonderful age of 94. Mom also loved to travel, and the collages on her walls showed some of her more enjoyable trips.

One way that Stuart enjoys traveling is speaking on cruise ships. This activity has allowed him to visit over one hundred twenty-five cruise ports, thus ensuring the authenticity of many of his books' descriptions and locations. In addition to novels, he writes travel articles and posts pictures of great travel places he's visited. He has Million-Mile Flier status on a major air carrier; he's been to over fifty countries plus all the cruise ports, thus it's easy to see why he has the U.S. Registered Trademark *America's International Travel Expert*®. For more travel information, and to read about Stuart's other books and speaking opportunities, visit **www.stuartgustafson.com**.

What's Next?

There are three murders in high profile locations around Sydney, Australia, in one week, and each murder victim has a similar tattoo on his arm. There's no evidence of struggle; the news is front-page headlines, and the Police Commissioner is desperate to make an arrest.

The Police have not made any headway, and so they invite Mathematics Professor Alfred Dunningham, PhD, to come to Sydney to help them. Besides teaching mathematics, he gives seminars worldwide on "Detective Work Made Easier Through Mathematics." He helps the Police make sense of the pieces of the puzzle; they find their suspect and arrest him. Newspaper headlines announce the arrest.
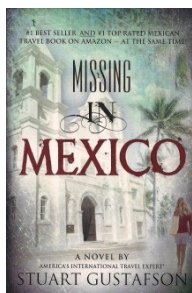
But then another body is found, and it fits the same pattern as the previous murders.

Do they have the actual perpetrator? The professor knows, and it's quite a shocking revelation when he names the real killer.

Author Stuart Gustafson made numerous trips to Sydney to research locations for the fictional story with real settings where Professor Dunningham solves his first case in *Sydney Murders-SOLVED!*
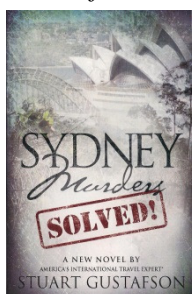
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Fictional mystery story set in Los Cabos, Mexico, at the tip of the Baja Peninsula. Stuart knows the area well as he's been going there every year since 2003. Set aside your pre-conceived notions of Mexico, and learn a little of the local language and culture as you find yourself thinking about planning your own trip to Cabo!
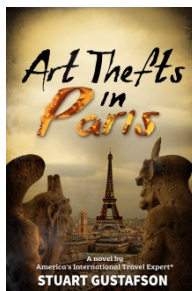
Series featuring Professor Alfred Dunningham, PhD

Stuart has been to Sydney, Australia at least ten times, and some of those were to research the areas where this story takes place. You'll feel as if you're right there in Australia's largest city as Stuart brings the locations to life while you're trying to figure out who did it. The professor knows, and it's a shock when he reveals who the killer is.

Speaking on cruise ships is one of the things that Stuart does to share his travel knowledge with others. He's been on a total of two dozen cruises, and the descriptions in this mystery are based on places he's been. The professor is running out of time to solve the mystery; will he be able to before the cruise is over?

Paris, France, is one of Stuart's favorite places to visit. He's been there numerous times, including a two-month stay as he was conducting research for this mystery novel. If you've been to Paris, you'll recognize the museums and many of the monuments in the book. If you've never been to Paris, you'll want to after you've read the story!