

AWESUM ALEX Math Detective

The Addition Problem



Rachel R. McAnallen

Illustrations by Christopher Tice

Royal Fireworks Press
Unionville, New York



Alex Hypatia was a thinker.

No matter where she was or what she was doing, Alex was always thinking. And what she liked to think about best were numbers, shapes, and patterns. She loved to count in all sorts of different ways.

If a cheek-pinching grown-up asked her, “How old are you, young lady?” Alex was inclined to answer importantly, “One hundred fifteen!” This was not a fib; she was 115, after all—if you counted in months. Alex thought with a smile, “If they want my answer in years, they should say so.”

Even when she was eating she found numbers to play with, which explains why Alex sat at the breakfast table playing “Marshmallow Math” with her cereal on the first day of school.

She took her spoon and ate all six orange pentagons first. Since pentagons have five sides, they were worth five points each. “Five, ten, fifteen, twenty, twenty-five, thirty sides,” Alex munched to herself. Next she ate five blue squares: “Four, eight, twelve, sixteen, twenty sides.” Then she ate five yellow triangles: “Three, six, nine, twelve, fifteen sides.” Finally she ate the oat circles, and since they didn’t have sides, they were zeros. “Zero, zero, zero, zero...plus zero, zero, zero, zero.” It was a challenge holding the other numbers in her head while she ate all those zeros. “Zero...plus zero, zero, zero...ZERO!”

The thirty sides of the six pentagons, plus the twenty sides of the five squares, added to the fifteen sides of the five triangles, plus all the zeroes, came to a total of sixty-five sides. “Sixty-five!” she announced to her family.

“You’re going to get along great with Mrs. Googol-Plex,” Alex’s older sister Grace informed her. “She turns everything into a game.”

Alex agreed. Everybody at Emmy Noether Elementary knew that Mrs. Googol-Plex was the world's most creative fifth-grade teacher. She rode a motorcycle to school and wore red cowboy boots. Her classroom was often full of noise and excitement.

Alex's father handed Alex a brown paper lunch bag. "Lettuce, tomato, and Swiss cheese, as requested," he said with a smile. Swiss cheese was Alex's favorite. Not only was it tasty; there were ellipses for her to count. Over the summer she had eaten a total of 723 ellipses in thirty-two sandwiches.

On the way to school, Alex's best friend Thomas helped her count how many vehicles they passed. By the time the bus pulled into the schoolyard, they had counted twenty-seven cars, nine trucks, four bicycles, and two scooters. They only counted one motorcycle.

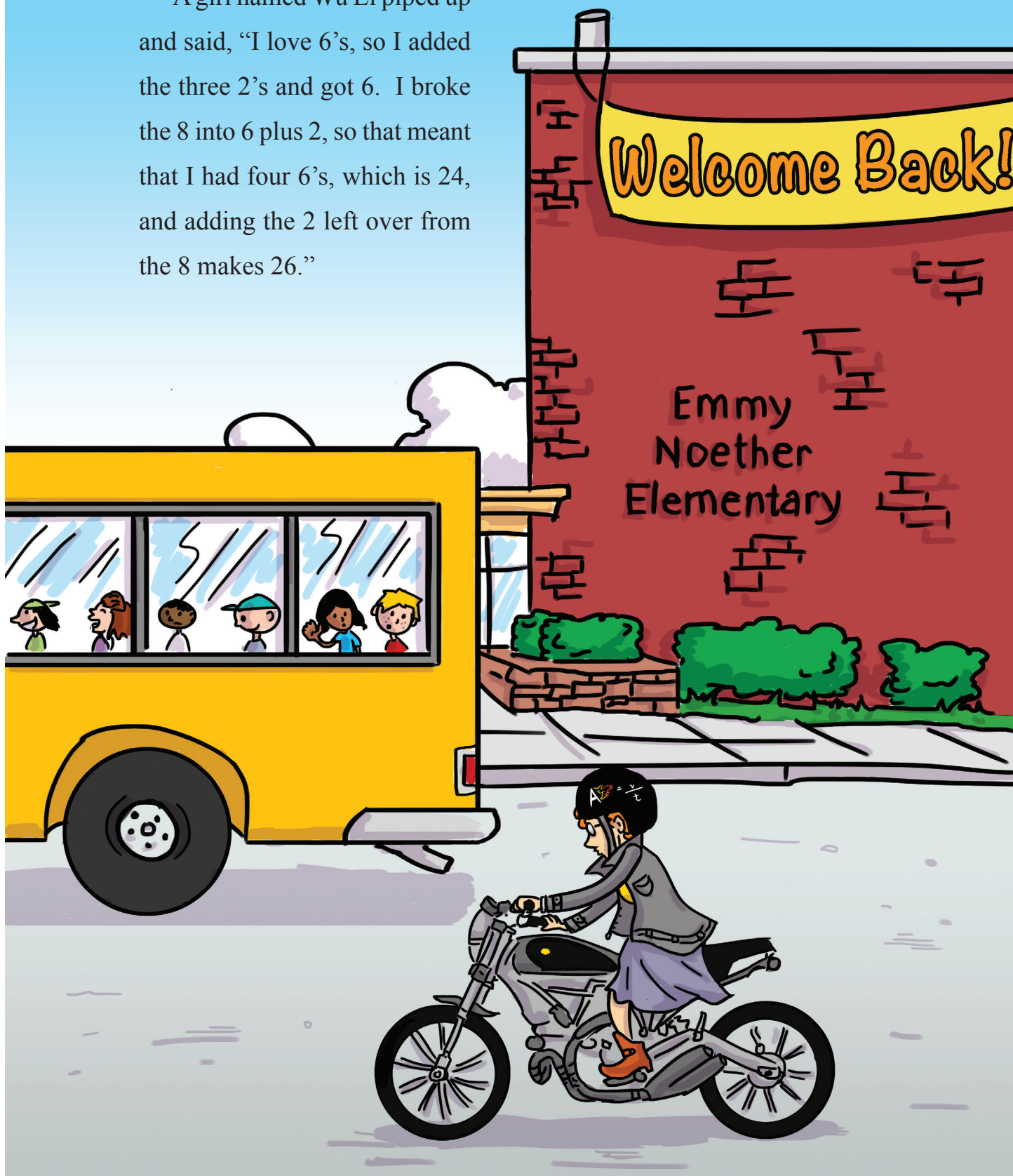
They also had fun playing the license plate game to see how many different ways they could add up the numbers on a license plate. They saw a plate from Illinois and had a contest to see how many different ways they could add the numbers.

Alex yelled out, "I see an 8 and a 2, so that makes 10. Then I see a 6 and a 2 and another 2, so that makes another 10, and that added to the first 10 makes a 20. There is a 6 remaining, so the total is 26!"



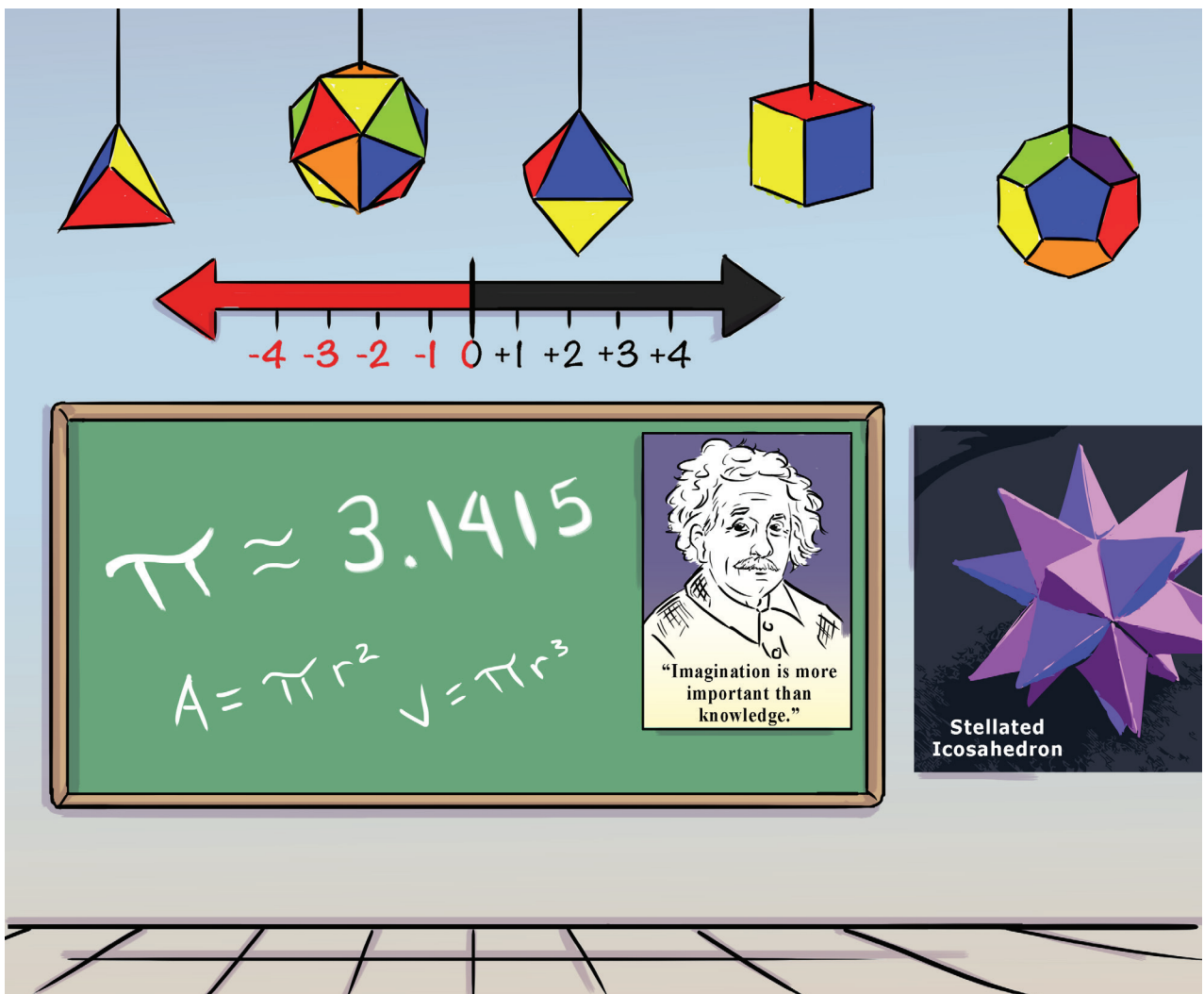
Thomas said, “I got 26 another way. I saw that 2 plus 2 plus 8 is 12; then 6 plus 6 is another 12. So 12 plus 12 is 24, plus the last 2 is 26.”

A girl named Wu Li piped up and said, “I love 6’s, so I added the three 2’s and got 6. I broke the 8 into 6 plus 2, so that meant that I had four 6’s, which is 24, and adding the 2 left over from the 8 makes 26.”



Alex's stomach did 360-degree spins as she and Thomas climbed the steps that led to the fifth- and sixth-grade section of the school. They searched for their new classroom together. "Not this one," said Alex thankfully when they peeked into the first room at the top of the stairs. It was silent, empty, and dull.

The next room wasn't dull at all. Colorful models and spinning mobiles hung from the ceiling. On the walls there were bright posters with pictures of interesting shapes, labeled with long names like "Stellated Icosahedron." Alex noticed that there was a number line over the board that had positive and negative numbers on it instead of the alphabet. Instead of plain boring rows, the desks formed a semicircle in the center of the room. "This must be it!" she exclaimed.



As if on cue, Mrs. Googol-Plex appeared in the doorway. Her hair was a wild tangle of orange curls, and it framed a smiling face. “Come on in!” she said. “Welcome to our classroom!”

It was a wonderfully busy morning, full of what Mrs. Googol-Plex liked to call “productive sound.” But of course what Alex enjoyed most was math class.

“Math is simply finding out how much or how many,” said Mrs. Googol-Plex. “Addition is just sophisticated counting. Subtraction is sophisticated counting backwards. Multiplication is sophisticated addition, and division is sophisticated subtraction.”





“Think outside the box,” Mrs. Googol-Plex told them with a smile.

Think outside the box? Alex envisioned her brain sitting on top of a cardboard box, but that didn’t make much sense. So she asked, “What does that mean, Mrs. Googol-Plex?”

“What do you think it means?” answered her teacher.

Alex wondered if anyone else was imagining a brain on top of a box. “I’m not sure,” she answered honestly.

Mrs. Googol-Plex wasn’t concerned if a person didn’t know the answer right away. “That’s okay,” she said. “I like to give plenty of think time.”

Mrs. Googol-Plex wrote the following numbers on the board:

+ 123

+ 234

+ 321

“How would you add these numbers?” she asked. “Where would you start?”

Thomas raised his hand. “Add 3 plus 4 plus 1,” he said quickly.

“Add the digits in the ones column first! That sounds reasonable!” said Mrs. Googol-Plex. “Does anyone else have another way?”

“Could we add the tens column first?” asked Wu Li.

“No one ever adds the tens first,” said Thomas.

“What about adding the hundreds column first?” Alex suggested.

“No way!” said Thomas. “You can’t do that!”

