

## **Milwaukee mathematician, teacher inspired Black students to see math within themselves**

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FROM A YOUNG AGE, Gloria Gilmer saw math in everything.

Growing up in Baltimore in the 1930s, Gilmer, the daughter of a Barbadian immigrant and a school teacher from rural Georgia, spent her weekends and after-school hours working in her father's corner store, counting and measuring out items and making change with fascination.

Some 60 years later, with a doctoral degree and decades of teaching under her belt, she found herself in an East Coast hair salon, studying stylists as they did their work. Traced and twisted in the braids of Black clientele, Gilmer saw the beauty of math – lessons on fractions, tessellations and algebra as deeply rooted in Black culture as the hair was in their scalps.

Mathematics is a field with clear associations in America: rigid, conceptual, male-dominated, culturally-neutral. It's almost popular to proclaim one is not "a math person."

But Gilmer was a math person – and believed everyone could be if taught the right way. In math, she saw creativity and culture.

"Owing to the importance of mathematics, every society has an instinctive kind of mathematical knowledge – that is ways of counting, measuring, relating, classifying and inferring," Gilmer wrote in a 1998 paper. "Unfortunately, much of this knowl-



Gloria Gilmer was a Milwaukee teacher and mathematician who was a leader in the field of ethnomathematics. She died Aug. 25 at 93.  
COURTESY OF JILL GILMER

edge has been ignored in the formal school mathematics curriculum."

A trailblazing mathematician, longtime Milwaukee resident, educator and community leader, Gilmer died Aug. 25 at the age of 93.

Her death didn't generate a wave of coverage and her legacy might be unknown to many, but Gilmer influenced generations of students and young people. She also leaves a clearer path for those in her community to walk down.

Among the many "firsts" on her resume: Gilmer was the first African American to teach high school math in Milwaukee Public Schools; to join the math faculty at Milwaukee Area Technical College, where she taught for 14 years; to be a math lecturer at the University of Wisconsin-Milwaukee; and to earn a

doctorate from Marquette University's education school. Later, she became the first Black woman to sit on the Board of Governors for the Mathematical Association of America.

She was also a leader in the field of ethnomathematics, which she described as "the mathematics of the people." In studying how math manifests into the daily lives of various world cultures, she traveled around the world — from Hungary to Brazil to China to Egypt to Australia.

Those who knew her were quick to dub her Wisconsin's "hidden figure," a reference to the 2016 movie about a group of Black women mathematicians whose work for NASA amid the Jim Crow era made U.S. spaceflight possible, but went largely unrecognized until recent years.

In a similar way, through decades of research, advocacy and teaching, Gilmer humbly and unwaveringly inspired generations of Milwaukee students — and students nationwide — to realize their "mathematical power."

"I still run into people that say she taught them math at Rufus King," said Jill Gilmer, her daughter. "It's amazing how many people remember her as a teacher."

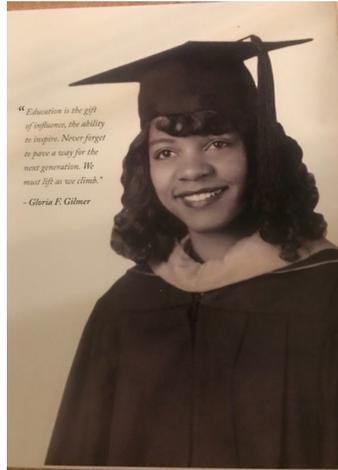
### **SHE DIDN'T SEE BARRIERS — JUST WAYS AROUND THEM**

Though she spent much of her adulthood in Milwaukee, Gilmer started out at Morgan State University, a historically Black university, where she earned a bachelor's degree in mathematics.

Still wanting to pursue further education, she sought to enroll at the University of Maryland for her master's.

They refused to admit her, offering instead to pay for her to pursue her degree at any other university in the country. It was the early 1940s.

"She just assumed that that was probably racism, because why couldn't they admit her?" Jill Gilmer said. "They didn't give her a valid reason; it just



Gloria Gilmer was remembered as Wisconsin's "hidden figure." This is a page from a booklet celebrating her life. COURTESY OF JILL GILMER

seemed like they didn't want to integrate the campus."

She secured admission at a more prestigious program at the University of Pennsylvania, where one of her math mentors from her childhood church had also studied.

"She didn't even really see barriers in her life," Jill Gilmer said. "She just saw ways around them."

For a short time after that, she worked for the U.S. Army, working on ballistic trajectories. She didn't particularly enjoy the work though, her daughter said.

She then chose the University of Wisconsin-Madison to pursue her doctorate, she'd later tell her kids, in part for the chance to move far away and escape a bad romance.

In Wisconsin, she met the late Jay Gilmer, and the two married and moved to Milwaukee. She dropped out of her doctoral program to raise their two children, Jay and Jill.

She took to teaching while raising her kids. Once they were in high school, she refocused again on higher education, enrolling at Marquette University, where she completed her doctorate in curriculum and instruction in 1979.

In the early 80's, she taught for a brief stint in Atlanta at two historically Black universities — Morehouse College and Clark Atlanta University — before moving to Washington D.C. to work for the U.S. Department of Education. In total, she taught at six HBCU's throughout her career.

Her work in D.C. exposed her to the field of ethnomathematics, and she spent many later years traveling, teaching and researching it on the national and international level.

She returned to Milwaukee in 1986, where she'd live for the rest of her life. Here, Gilmer launched Math Tech Inc., an educational research and development company.

The company's work included a program called "Family Math."

In the Carter Child Development Center near 17th



Gloria Gilmer at her 90th birthday party. Her daughter Jill recalled so many people came that the venue ran out of capacity. COURTESY OF JILL GILMER

and Vliet streets, Gilmer gathered parents and students to teach them simultaneously about math and computer skills. The goal, her former MATC colleague Philip Blank said, was to address the fact that children didn't always have the support they needed from their parents on math homework at home. Gilmer built both parents' and students' confidence in the subject.

It was just one of many ways in which Gilmer innovated around math education in a way that seemed decades ahead of her time. Blank said he didn't even know of some of her work, like the research on hair braiding, until after she died.

Gilmer's passion for making connections and solving problems didn't end with mathematical equations. She loved networking and bringing together people who could help one another.

In church, she chaired the Episcopal Diocese of Wisconsin's Commission on Racial Justice. She was active in the Milwaukee chapter of the National Association for the Advancement of Colored People and in her later years, the Milwaukee-based National Black MBAs organization, of which her daughter was president.

That Gilmer didn't have a master's in business administration was beside the point.

"She just helped a lot of people find their way," her friend Cathy Wanzo said. "To encourage them and let them discover their own reality. She always encouraged young people to do their best. So that to me is her legacy, both in the classroom and outside the classroom."

#### **AN ICON IN HER OWN RIGHT**

Gilmer's death comes at a time when some people are questioning how much of a factor race and racial history should play in education.

In her papers and her advocacy, Gilmer was an uncompromising proponent of teaching math in an equitable and culturally-relevant way, saying connecting math to people's lives was the best way to make it more interesting and approachable. In her 1998 article on ethnomathematics, she called on schools to think about the needs of all students, not simply the desires of the most influential parents, who often are "predominately white, middle-class parents of high achieving students."

Despite the belief that math is taught in a "culture free" way, Gilmer argued the reality is that all teaching is shaped by societal or class values and can fail to account for multicultural perspectives.

She used the example of a simple word problem: "It costs \$1.50 each way to ride the bus between home and work. A weekly bus pass is \$16. Which is the better deal, paying the daily fare or buying the weekly pass?"

"On the one hand, test designers assumed that only one person would use the bus pass, the pass would not be used on weekends, and that the person had only one job," Gilmer wrote. "On the other hand, many African American students assumed three or four people may use the same pass at different times of the day



**Brittany Rhodes,**  
founder of the  
Black Girl MATHgic  
monthly subscription  
box, shows the box  
inspired by Gloria  
Gilmer's work in  
ethnomathematics.  
*COURTESY OF  
BRITTANY RHODES*

or on weekends; or, that if one person used the pass he or she could have two jobs. Since situational mathematics is almost always culturally based, in multicultural settings care must be taken to include cultural assumptions in the statement of the problem.”

This inclusive approach to math has had impact nationwide.

Her story received more attention in recent years, from being featured in the children’s workbook “Women Who Count,” to inspiring biographical art. In May, the American Mathematical Society launched the \$50,000 Claytor-Gilmer Fellowship in her honor, to support mid-career Black mathematicians.

When Brittany Rhodes, founder of Detroit-based Black Girl MATHgic, heard about Gilmer, she decided to feature the mathematician in one of her curated monthly math activity boxes.

The box, based on the theme “love your hair,” included a biography of Gilmer, a children’s book celebrating Black hair, African American made art and hair mist. The math activities explored math equations in braiding and created word prompts around the business of owning a hair salon. It sold out.

Rhodes said Gilmer’s story counters all the internalized rhetoric that young Black girls can struggle with

trying to make it in a field where they don’t see many people who look like them.

“When you have somebody like Dr. Gilmer who was studying something — especially in the Black community — that is just so culturally us, hair braiding, and making those connections for kids, its just something,” Rhodes said. “I just had to share her story.”

Milton Bond, a math instructor at MATC who also taught at MPS for more than 20 years, said its critical that Black students learn about the relevance of math in their lives and in their cultural history. Math doesn’t have to be something to fear, he said.

Bond said he worries that Black students remain under represented in math-related fields today. The Black community needs more Black math teachers, more doctors and engineers.

He recalled Gilmer once saying she was worried that young people of color weren’t dreaming enough. She saw math as the way to reignite that imagination, he said.

“She’s a trailblazer,” he said. “And the sad thing about it is, if we don’t keep having trailblazers or pioneers or settlers, there’s going to be weeds growing over that path that she created, and we’ll have to find another person to cut that path again.”