

THE ROCKET SCIENTIST

MARY GOLDA ROSS (1908-2008)

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"To function efficiently in today's world, you need math. The world is so technical, if you plan to work in it, a math background will let you go farther and faster."

$$V^2 \infty = V^2 - \frac{2\mu}{r}$$

"Women would make excellent astronauts. But I'd rather stay down here and analyze the data."

Mary retired in 1973, after thirty years at Lockheed. She might have stopped launching rockets, but she continued to launch careers. She helped guide girls and Indigenous students toward careers in engineering. By the time she left Lockheed, the company employed over 100 women engineers.

But Mary's real passion was designing models for space travel. Her designs played a role in the Gemini and Apollo missions, and she wrote NASA's handbook on travel to Mars and Venus, laying the groundwork for later generations working toward interplanetary travel.

After the war, many women were laid off, but not Mary. Lockheed sent her to college to study engineering and made her the company's first female engineer. During the Cold War, she helped design missiles for Lockheed's top-secret division called Skunk Works. Of the 40 people at Skunk Works, only two were women: Mary and one secretary.

"We were taking the theoretical and making it REAL."

Mary was an exceptional mathematician and Lockheed hired her as a "computer"—using pencil and paper to make complex calculations that kept planes from falling apart at high speeds.

"I was the pencil pusher. My state-of-the-art tools were a slide rule and a Friden computer."

When the US entered World War 2, companies like the Lockheed Corporation, which made aircraft, raced to make weapons. With men fighting abroad, that meant hiring women.

"But I could hold my own with them, and sometimes did better."

"I was the only female in my class, I sat on one side of the room and the guys on the other side of the room."

She was born in the Cherokee nation, and she became the first Indigenous American female engineer.

HUMANITY HAS ALWAYS LOOKED TO THE STARS, but it was the work of people like MARY GOLDA ROSS that launched our voyages into space. If a rocket blasted off in the twentieth century, Mary probably had a hand in engineering it.