WOMEN IN STEM

2017 COLORING BOOK

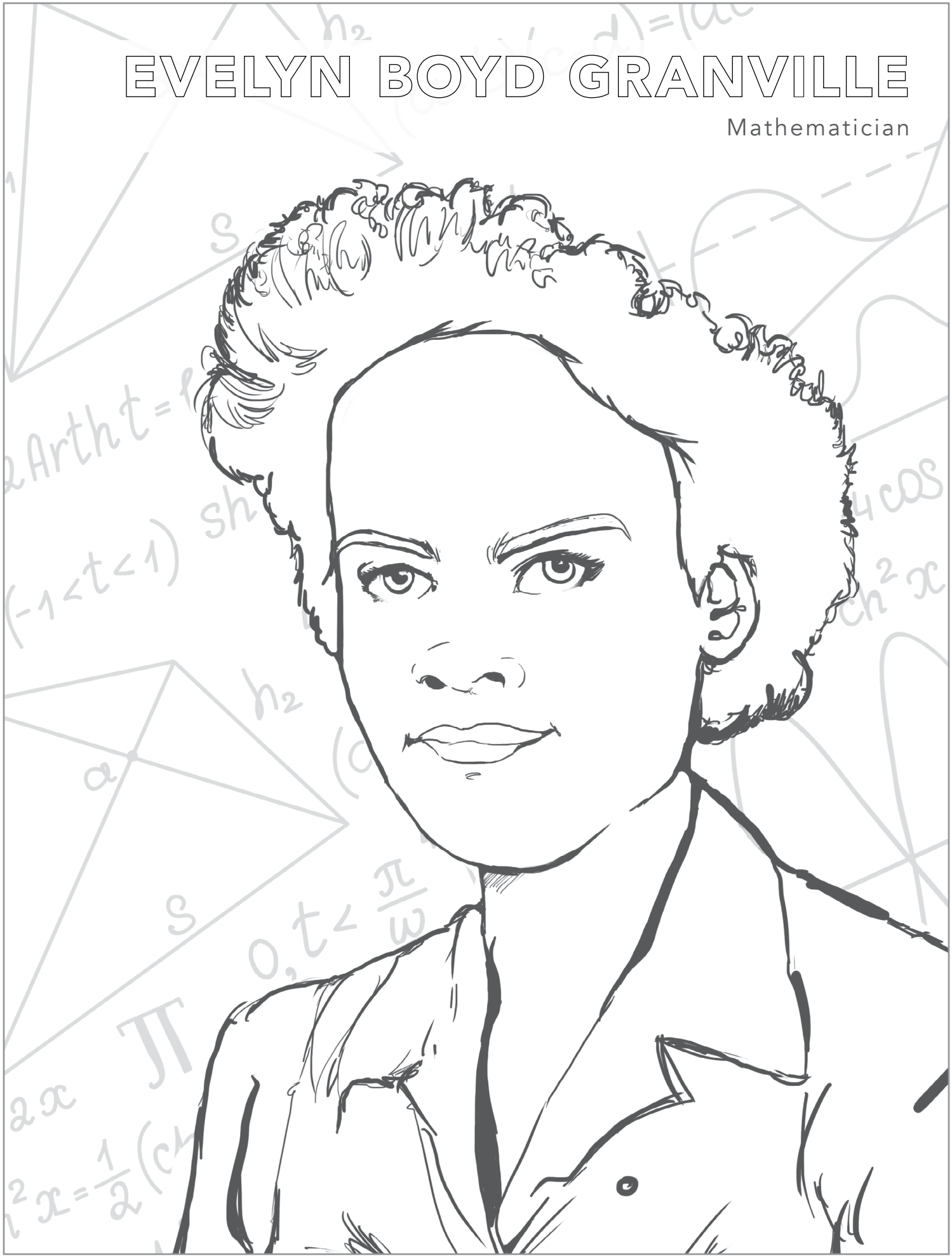
ENERGY.GOV

HEDY LAMARR

Inventor + Actress

EVELYN BOYD GRANVILLE

Mathematician



BARBARA McCLINTOCK

Scientist + Cytogeneticist

RUBY HIROSE

Biochemist + Bacteriologist

NORA STANTON BLATCH BARNEY

Civil Engineer + Architect

ABOUT THE SCIENTISTS

HEDY LAMARR

Born in Vienna, Austria in 1914, Hedy (real name Hedwig) acted in German movies until Hollywood producers brought her to America in the late 1930s. During her acting career she starred in 30 films.

In 1942 with the help of piano composer George Anthiel, she submitted a patent for technology enabling radio signals to jump frequencies so that enemies couldn't jam the signals. The idea was ahead of its time, but wasn't put into practical use until the Cuban Missile Crisis 20 years later.

Her idea is now the basis for the tech behind mobile phones, fax machines, and other wireless communications.

EVELYN BOYD GRANVILLE

Evelyn was born in Washington, D.C. in 1924. A star student of mathematics, she graduated valedictorian, summa cum laude, and earned her Ph.D. in the mathematics at Yale University.

Working at the National Bureau of Standards, Evelyn used her math skills to help develop missile fuses. When hired by IBM in 1956, she launched her career in America's space program by designing computer software that helped analyze satellite orbits for the Project Mercury missions.

In 1962, she worked on NASA's Apollo program. A few months later, she returned to IBM as a senior mathematician before moving on to teach computer programming.

She remains a devoted adovcate for STEM education.

BARBARA MCCLINTOCK

When Barbara McClintock went to Cornell University, women weren't allowed to major in genetics. Instead, McClintock earned her bachelor's and master's degrees in botany and joined an elite group of researchers who studied the properties of corn at the cellular level.

McClintock is considered to be among the most distinguished scientists of the last century. She was elected to the National Academy of Sciences in 1944, one of only two other women to have received this honor at the time. In 1945, she became first woman to be elected president of the Genetics Society of America. In 1981, she became one of the first scientists to receive the MacArthur Foundation Grant (commonly known as the Genius Grant). In 1971 President Nixon awarded her the National Medal of Science.

RUBY HIROSE

Ruby Hirose graduated from Auburn High School in Auburn, Washington, in 1922 before going on to earn her bachelor's, master's, and doctorate degrees in pharmacology. Her research helped lead to vaccines against polio and other diseases.

In 1940, Hirose was one of just 10 women recognized at the American Chemical Society meeting in Cincinnati, Ohio. In a male-dominated field, she went on to make major contributions to the development of vaccines, including against infantile paralysis. She suffered from hay fever while making strides to improve treatment for it; her idea to treat the pollen with alum to make it more effective actually came from her efforts to develop a diphtheria vaccine.

As a child of immigrants from Japan raised in a predominantly white community, Hirose struggled with issues of racial identity and discrimination. Ruby's family was sent to Japanese internment camps during World War II under President Roosevelt's order. She had moved east and was living in Ohio by then, sparing her from a similar fate.

NORA STANTON BLATCH BARNEY

Nora Stanton Blatch Barney is the granddaughter of Elizabeth Cady Stanton, a well-known figure in the women's rights movement. Both Barney and her mother, Harriot Stanton Blatch, followed in Cady Stanton's footsteps, fighting for gender equality.

Nora got her degree from Cornell University, where she became the first American civil engineer. While at Cornell, she solved a key problem in hydrodynamics while researching for her thesis and was elected to Sigma Xi, an honorary scientific society.

In addition to being the first woman civil enginner, she was also the first woman ever admitted to the American Society of Civil Engineers. She was only allowed to be a junior member at first — when she was denied full associate membership, she took the ASCE to court. While she lost that lawsuit, she was posthumously given fellow status in 2015.