Emmy Noether
(1882 - 1935)
Mathematical Genius

When Emmy Noether died in 1935, Albert Einstein called her the *"most significant creative mathematical genius thus far"*. Noether studied mathematics at the University of Erlangen in Germany before working at the Mathematical Institute of Erlangen without pay for seven years. In 1915 she was invited by mathematician David Hilbert to join the mathematics department at the University of Göttingen, but a number of academics there objected. As a result, she spent the next four years lecturing under Hilbert's name. She finally obtained the rank of professor in 1922 but only began to receive a small salary in 1923.

Noether's ground-breaking contributions to mathematics have been categorised into three-time periods. During the first (1908-1919), she made contributions to the theories of algebraic invariants. The theorem she developed has been called one of the most important theorems ever, in "guiding the development of modern physics". During the second period (1920-1926), she developed the theory of ideals in commutative rings into a tool with wide-ranging applications. The objects that satisfy the ascending chain condition are named Noetherian in her honour. In the third phase of her career (1927-1935), she published works on noncommutative algebras and hypercomplex numbers.

In 1932 Noether and colleague Emil Artin were awarded the Ackerman-Teubner Memorial Award, considered as a long overdue recognition of her contributions. But she was never elected to the German Academy of Sciences, nor promoted to the positon of full professor.

Noether was one of the first Jewish academics to be fired from her post by Hitler's administration and in 1933 she was forced to flee Germany. Albert Einstein helped her to gain work at Bryn Mawr College in the US, where she said she felt appreciated in a way she had never been whilst in Germany. Eighteen months later she died after an operation to remove an ovarian cyst.

NOETHER

Main image: Emmy Noether ca. 1922 [Göttingen State and University Library, Manuscripts and Scholarly Collections, Public Domain.].
Background: Postcard from Emmy Noether to E. Fischer. Postmarked 10 April 1915 [Auguste Dick's Emmy Noether: 1882-1935, Public Domain].

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