Julius Wilhelm Richard Dedekind
German Mathematician
Born: Braunshweig, Brunswick, Germany, Oct 6, 1931. Died: Braunshweig, Feb 12, 1916

Dedekind was the youngest of four children and was brought up in an intellectually stimulating home with an academically accomplished family. His father was a Professor of Law at the Collegium Carolinum and his paternal grandfather had been a chemist and physician. His maternal grandfather had been a Professor at the Collegium Carolinum as well. His brother became a court judge and one of his sisters published novels.

Dedekind's formal education began at the Gymnasium Martino-Catharineum in Brunswick where originally he was interested in chemistry and physics. Mathematics, at that time, was just a useful tool for the sciences. However, by the time he enrolled in Collegium Carolinum he chose mathematics because of its more logical structure. Here at the Collegium he dedicated his full two years to nothing but mathematics, studying analytic geometry, differential and integral calculus and the foundation of analysis.

He next enrolled at the University of Gottingen where he was the most prepared student in the class. He attended lectures by Gauss on the theory of least squares. Also here he attended a lecture on number theory where he met Bernhard Riemann who became his champion. In the spring of 1852 he wrote his PhD dissertation on the theory of Eulerian integrals with Gauss as his supervisor. At Gottingen, Dedekind became part of the faculty and became very close friends with Riemann and Peter Dirichlet, whose lectures he used to sit in on. He dithered when offered a post at the Zurich Polytechnic, but eventually went to Zurich.

When Riemann was elected to the Berlin Academy, Dedekind went to Berlin on a visit and there met many of the top German mathematicians including Weierstrass. With these contacts he managed to get a contract at Brunswick Polytechnic which had succeeded the Collegium Carolinum. He stayed there the rest of his working life.

A course on differential calculus to first year students that Dedekind taught made him realize that there was no sound theoretical foundation for the continuation of the real numbers on the real number line. Fourteen years later he published ***Continuity and Irrational Numbers*** (1872), followed by ***The Nature and Meaning of Numbers*** (1887). His concept of the "Dedekind Cut" began to put some sound foundation into where the irrational numbers fir into the real number line. Later on George Cantor's work relied on this "cut" idea.

Later on, Dedkind moved on to publishing works for Dirichler, Riemann and Gauss. Later on Dedekind became the Poltechnic's Director, a position that both his Father and maternal Grandfather had held. He retired from his post in 1894, but continued to lecture long into his 70's as he enjoyed this so much. Dedekind never married and lived with his sister Julie until she died in 1914. He died after a short illness on February 12, 1916.