

G.H. Hardy

English mathematician

G.H. Hardy, in full **Godfrey Harold Hardy**, (born February 7, 1877, Cranleigh, [Surrey](#), England—died December 1, 1947, [Cambridge](#), Cambridgeshire), leading English pure mathematician whose work was mainly in [analysis](#) and [number theory](#).

Hardy graduated from Trinity College, Cambridge, in 1899, became a fellow at Trinity in 1900, and lectured there in [mathematics](#) from 1906 to 1919. In 1912 Hardy published, with John E. Littlewood, the first of a series of papers that contributed fundamentally to many realms in mathematics, including the theory of [Diophantine analysis](#), divergent series summation (see [infinite series](#)), [Fourier series](#), the [Riemann zeta function](#), and the distribution of primes. The collaboration between Hardy and Littlewood is one of the most celebrated in 20th-century mathematics.

Besides Littlewood, Hardy's other important collaboration was with [Srinivasa Ramanujan](#), a poor self-taught Indian clerk whom Hardy immediately recognized as a mathematical genius. Hardy arranged for Ramanujan to be brought to Cambridge in 1914, filled in the gaps in his mathematical education by private tutoring, and coauthored several papers with him before Ramanujan returned to India in 1919. In 1914 Hardy became Cayley Lecturer at Cambridge, and in 1919 he was appointed to the Savilian Chair of Geometry at the [University of Oxford](#). In 1928–29 he was a visiting professor at Princeton, exchanging places with [Oswald Veblen](#). He returned to Cambridge in 1931 as Sadleirian Professor of Pure Mathematics and remained there until his death.

Hardy did not disguise his distaste for applied mathematics. However, early in his career he made what turned out to be a significant contribution. In 1908 he gave, concurrently with the German physician [Wilhelm Weinberg](#), what is now known as the [Hardy-Weinberg law](#). The law resolved the controversy over what proportions of dominant and recessive genetic traits would be propagated in a large mixed population. Although Hardy

attached little importance to the law, it became central to the study of many genetic problems.

Hardy was the author or coauthor of more than 300 papers and 11 books, including *A Course of Pure Mathematics* (1908), which ran into 10 editions and transformed university teaching, *Inequalities* (1934) with Littlewood, *The Theory of Numbers* (1938) with E.M. Wright, and *Divergent Series* (1948). *A Mathematician's Apology* (1940), which gives a completely personal account of how mathematicians think, continues to be widely read. He was widely honoured for his work, being elected a fellow of the [Royal Society](#) (1910) and president of the London Mathematical Society (1926–28, 1939–41).