

Recent Mathematical Stamps: 2005

Avicenna (980–1037)

Avicenna, also known as ibn Sinah, was the most celebrated of Persian philosopher-scientists, best known for his treatises on medicine. He contributed to arithmetic and number theory, produced a celebrated Arabic summary of Euclid's *Elements*, and applied his mathematical knowledge to problems from physics and astronomy.

Albert Einstein (1879–1955)

In 1905, Einstein published his 'special theory of relativity', asserting that the basic laws of motion (including Maxwell's equations) are the same for all observers in uniform motion relative to one another. He thereby extended Newton's ideas on mechanics to include electromagnetism and Maxwell's results. A consequence is that mass is a form of energy, and that the energy E and mass m are related by the well-known equation $E = mc^2$, where c is the speed of light.

GAMM 2005

In 2005 the Gesellschaft für Angewandte Mathematik und Mechanik (Society of Applied Mathematics and Mechanics) organized the 76th International Congress of Applied

Mathematics and Mechanics in Luxembourg. The commemorative stamp illustrates the calculation of the airstream of a turbine in a hydroelectric power station.

Josiah Willard Gibbs (1839–1903)

Gibbs was an American physicist and mathematician who spent his working life as professor of mathematical physics at Yale. In mathematics he combined Grassmann's ideas on exterior algebra with Hamilton's quaternions, applying his conclusions in vector analysis to areas of mathematical physics. He also contributed to statistical mechanics, helping to provide a mathematical framework for quantum theory.

Edmond Halley (1656–1742)

While still an Oxford University student, Halley sailed to St Helena to prepare the first accurate catalogue of the stars in the southern sky. In 1684 he persuaded Isaac Newton to publish his ideas on gravitation in the *Principia Mathematica*. In 1704 Halley became professor of geometry at Oxford, where he prepared a definitive edition of Apollonius's *Conics*. He is primarily remembered for the comet, named after him, whose return he predicted.

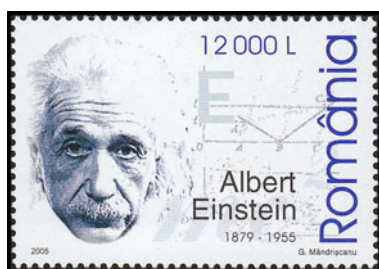
William Rowan Hamilton (1805–1865)

Hamilton was a child prodigy who mastered several languages at an early age, discovered an error in Laplace's treatise on celestial mechanics while still a teenager, and became Astronomer Royal of Ireland while an undergraduate. He made several important advances in mechanics, and discovered the noncommutative 'quaternions' of the form.

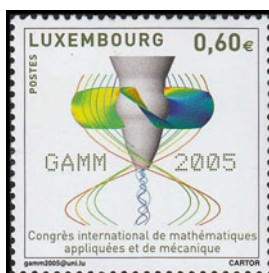
$$a + bi + cj + dk, \text{ where } i^2 = j^2 = k^2 = ijk = -1.$$



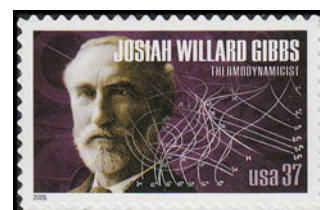
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Einstein



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Gibbs



Halley



Hamilton

➤ Please send all submissions to the Stamp Corner Editor, **Robin Wilson**, Faculty of Mathematics, Computing and Technology, The Open University, Milton Keynes, MK7 6AA, England
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