

## M2PM3 COMPLEX ANALYSIS: DRAMATIS PERSONAE

- Jean Robert Argand (1768-1822) in 1806: Argand diagram [I.1].
- Georg Cantor (1845-1918): construction of the reals by Cauchy sequences in 1871 [I.1]; Cantor's theorem [I.2.6].
- Girolamo Cardano (1501-1576): *Ars magna*, 1545, complex numbers [I.0].
- Augustin Louis Cauchy (1789-1857): introduces Complex Analysis (1825-1829) [I.0]; Cauchy's General Principle of Convergence [I.2.9]; Root Test [I.2.10]; Cauchy-Riemann equations [II.2]; Cauchy density [II.4]; Cauchy's theorem [II.5]; Cauchy's integral formulae [II.6]; Cauchy's inequalities [II.6]; Cauchy-Taylor theorem [II.7]; Cauchy's Residue Theorem [II.10].
- Richard Dedekind (1831-1916): construction of reals by Dedekind cuts, [I.1].
- Leonhard Euler (1707-1783): Euler's formulae (for complex exponentials and trig functions) [II.1.3]; Eulerian integral for the Beta function  $B(\alpha, \beta)$  [Cw2, III.8];  $\zeta(2) = \sum_1^\infty = \pi^2/6$ , [III.9]; Euler's constant  $\gamma$  [III.10].
- Augustus De Morgan (1806-1871): De Morgan's laws in 1870.
- Girard Desargues (1591-1661) in 1631: projective geometry.
- Maurice Fréchet (1878-1942): metric spaces in 1906 [I.2].
- Evariste Galois (1811-1832) in 1832: field extensions (and Galois theory) [I.1].
- C. F. Gauss (1777-1855): Argand diagram in 1831 [I.1]; Gaussian density (or normal density), [III.2].
- Edouard J.-B. Goursat (12858-1936): removed the assumption that  $f'$  is continuous in Cauchy's Theorem in 1884 [handout on Cauchy's Theorem].
- George Green (1793-1841), *Essay on magnetism* in 1828: Green's theorem.
- W. R. Hamilton (1805-1865): complex numbers as ordered pairs in 1837 [I.1].
- Felix Hausdorff (1868-1942): General Topology in 1914 [I.2.4].
- Camille Jordan (1838-1922): Jordan Curve Theorem in 1866 [handout on Cauchy's Theorem]; Jordan's Lemma [III.4].
- Felix Klein (1849-1925): Riemann surfaces in 1882 [II.1.6].
- Pierre-Alphonse Laurent (1813-1854): Laurent's theorem in 1843 [II.9].
- Joseph Liouville (1809-1882): Liouville's theorem in lectures of 1847 (published by Cauchy, 1844) [II.6].
- Giacinto Morera (1856-1909): Morera's theorem in 1889 [II.6].
- J. von Neumann (1903-1957): set-theoretic definition of natural numbers [I.1].
- Ptolemy, c. 160 AD: stereographic projection [I.1].
- G. B. F. Riemann (1826-1866): Riemann integral in 1854 [I.0]; stereographic projection in 1851 [I.1]; Cauchy-Riemann equations [II.2]; Riemann surfaces in 1851 [II.1.6]; Riemann zeta function in 1859 [Problems 3, III.9].
- Brooke Taylor (1685-1713): *Methodus incrementorum*, 1715; Taylor's theorem [I.0], Cauchy-Taylor theorem [II.7].
- John Wallis (1616-1703), *Arithmetica infinitorum* in 1656: Wallis' product for  $\pi$  [III.10].
- Karl Weierstrass (1815-1897): Bolzano-Weierstrass theorem [I.2.3]; analytic continuation [Soln3, III.8]; power-series approach to analytic/holomorphic functions, 1860s [II.7, III.8]; product for  $\Gamma$  in 1856 [III.10].
- Caspar Wessel (1745-1818) in 1799 (republ. 1895): Argand diagram [I.1].

