

# Complex number

*Complex numbers* consist of a real number plus an **imaginary number**, so can be written as  $x + iy$ .

We can visualise imaginary numbers as lying along a number line like the ordinary real number line, but at right angles to it. These two number lines together form a plane called the *complex plane* or the *Argand diagram*, and the complex number  $x + iy$  will lie at the point  $(x, y)$  on this plane.

Every polynomial with real (or even complex) coefficients has a root in the complex numbers, which makes complex numbers a very powerful mathematical concept.