



Figure 49. The Small Eisenstein Primes

Eisenstein primes are the primes in the set of numbers of the form $a + bw$, where a and b are integers and $w = \frac{-1+i\sqrt{3}}{2}$, such that $a + bw$ cannot be written as a product of other Eisenstein integers. The center of the image above is 0 and the primes $a + bw$ are indicated by small hexagons placed at $a + bw$ on the complex plane. Eisenstein primes come in three flavors: the prime $1 - w$; the primes $\pm a, \pm aw$ and $\pm aw^2$, where a is a real prime congruent to 2 modulo 3; and $a \pm bw$, where $a^2 - ab + b^2$ is a real prime.