## P.6 Complex Numbers

Target 2B: Find Real and Complex Zeroes of Polynomials by Synthetic and Long Division

> **Two complex numbers are equal if and only if their real and imaginary parts are equal.**

Example

Find the numbers x and y that make the equation true: $(5 - 2i) - 7 = x - (3 + yi)$

DEFINITION Absolute Value (Modulus) of a Complex Number

The **absolute value** or **modulus** of a complex number $z = a + bi$ is

$$|z| = |a + bi| = \sqrt{a^2 + b^2}.$$

In the complex plane, $|a + bi|$ is the distance of $a + bi$ from the origin.
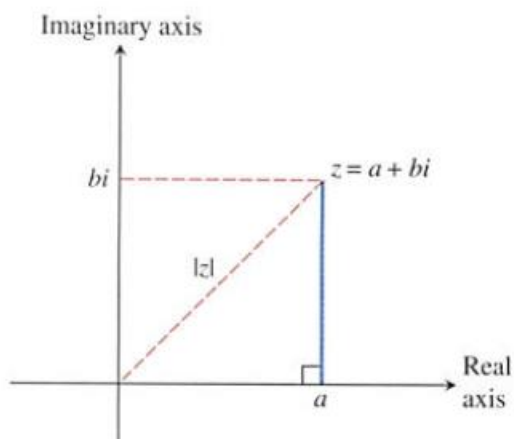
Example

Evaluate and simplify: $|-3 + 6i|$