

Section 7.6: Complex Numbers

Wednesday, November 27, 2013
10:09 AM

solve, giving natural number solutions:

$$x + 3 = 0$$

no natural solutions

solve, giving integer solutions:

$$2x + 1 = 0$$

no integer solutions

solve, giving real solutions:

$$x^2 = -9$$

no real solutions

consider the number $\sqrt{-1}$

not a real number

$$i = \sqrt{-1}$$

where $i^2 = -1$

complex number \equiv a number that can be written in the form

$$a + bi$$

where a and b are real
and $i = \sqrt{-1}$

examples:

$$3 + 5i$$

$$-2 + 7i$$

$$8$$

$$-3i$$

\leftarrow can be real

\leftarrow pure imaginary

$$a + bi$$

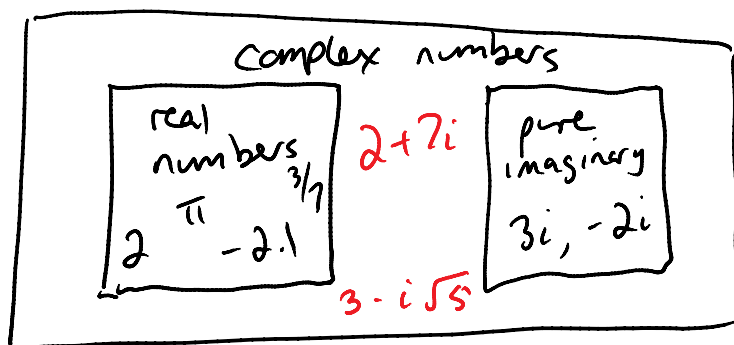


real
part



imaginary
part

complex numbers:



Complex plane:

