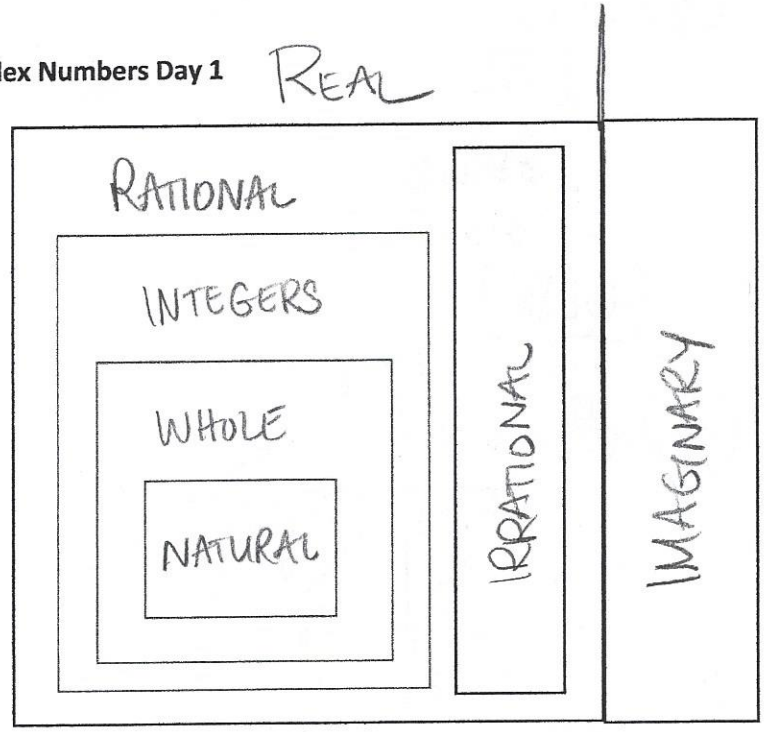
2.6 Complex Numbers Day 1

Recall: $\sqrt{144} = 12$



Product Property:

$$\sqrt{-144} = \sqrt{-1}\sqrt{144} = 12i$$

$i = \sqrt{-1}$ $\qquad$ $i^2 = \sqrt{-1}\sqrt{-1} = -1$ $\quad (\sqrt{-1})^2$

$i^3 = i^2 \cdot i$ $\qquad$ $i^4 = i^2 \cdot i^2 = -1 \cdot -1$

$= -i$ $\qquad$ $= 1$

$i^5 = i^4 i$ $\qquad$ $i^6 = -1$

$= i$

$i^7 = i^6 i$ $\qquad$ $i^8 = 1$

$= -i$

**Divisible by 2, you will get a negative

**Divisible by 4, you will get a positive

****Complex Number**: In Standard form it is a number a+bi where a and b are real numbers.

- "a" is the real part and "bi" is the imaginary

Simplify.

$(8 - i) + (5 + 4i)$

$13 + 3i$

$(7 - 6i) - (3 - 6i)$ $\qquad -6-(-6)$

4

$10 - (6 + 7i) + 4i$

$10 - 6 - 7i + 4i$

$4 - 3i$