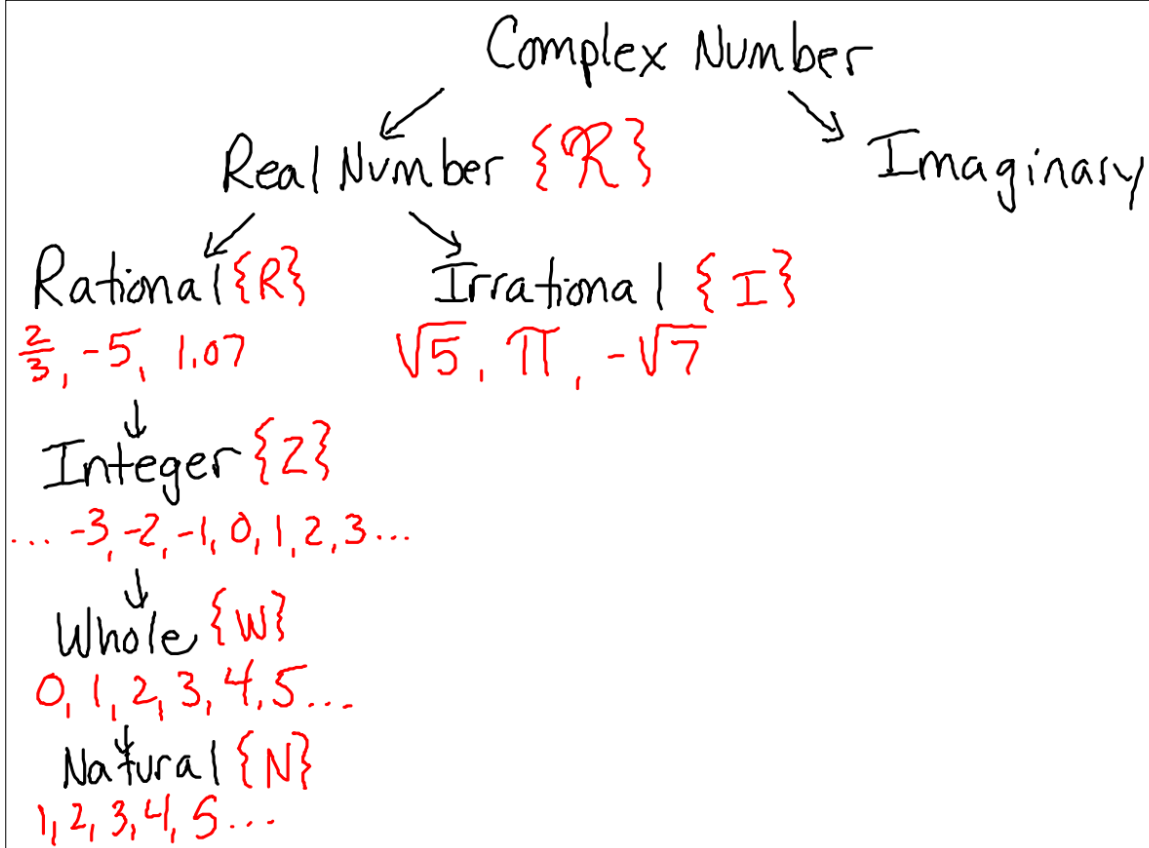


Sec 1-1



Terms



Real #	Opposite (Additive Inverse)	Reciprocal (Multiplicative Inverse)	Absolute Value
5	-5	$\frac{1}{5}$	5
-3	3	$-\frac{1}{3}$	3
.2 $\frac{2}{10}$	-.2	$\frac{1}{2}$ $\frac{10}{2} = 5$.2

Properties

Commutative $2 + 3 = 3 + 2$ $(2)(3) = (3)(2)$

Associative $(2+3)+4 = 2+(3+4)$ $(2 \cdot 3)4 = 2(3 \cdot 4)$

Identity $2 + 0 = 2$ $2(1) = 2$

Inverse $2 + (-2) = 0$ $2\left(\frac{1}{2}\right) = 1$

Distributive $2(x+3) = 2x + 6$

Sec 1-2

Evaluate

$$\begin{aligned} & 3y - (4y + 6x) \quad \text{for } x = 3, y = -2 \\ &= 3(-2) - (4(-2) + 6(3)) \\ &= -6 - (-8 + 18) \\ &= -6 - (10) \\ &= -16 \end{aligned}$$

Combine / Collect Like Terms

$$12(x^2 + y) - 3(y - x^2)$$

$$= 12x^2 + 12y - 3y + 3x^2$$

$$= 15x^2 + 9y$$

Sec 1-3

Solve

$$2 - 3(x + 4) = 8$$

$$2 - 3x - 12 = 8$$

$$-10 - 3x = 8$$

$$\frac{-3x}{-3} = \frac{18}{-3}$$

$$x = -6$$

Solve For h:

$$\frac{V}{lw} = \frac{\cancel{lw}h}{\cancel{lw}}$$

$$h = \frac{V}{lw}$$

Solve for x : state any restrictions:

$$ax - 1 = bx$$

$$ax - bx = 1$$

$$\frac{x(a-b)}{a-b} = \frac{1}{a-b}$$

Trick!

$$a-b \neq 0$$
$$a \neq b$$

Sec 1-4

Solve

$$6 + 5(2 - x) < 41$$

$$6 + 10 - 5x < 41$$

$$16 - 5x < 41$$

$$\begin{array}{r} -5x < 25 \\ \hline -5 \end{array}$$

$$x > -5$$



Solve (Conjunction)

$$-6 < 2x - 4 \leq 12$$

$$-6 \overset{+4}{<} 2x - 4 \overset{+4}{\text{ and }} 2x - 4 \overset{+4}{\leq} 12 \overset{+4}{}$$

$$\frac{-2}{2} < \frac{2x}{2}$$

$$-1 < x$$

$$\frac{2x}{2} \leq \frac{16}{2}$$

$$x \leq 8$$



Solve (Disjunction)

$$3x + 9 < 3 \quad \text{or} \quad -2x + 1 < 5$$

$$\frac{3x}{3} < \frac{-6}{3}$$

$$x < -2$$

$$\frac{-2x}{-2} < \frac{4}{-2}$$

$$x > -2$$



Sec 1-5

$$|x| = 5$$

$$x = 5 \text{ or } -5$$

Solve

$$|x + 3| = 5$$

$$x + 3 = 5$$

$$x = 2$$

$$x + 3 = -5$$

$$x = -8$$

} Check
Answers

Solve

$$|3x-4| = -4|x-1|$$

$$3x-4 = -4|x-1| \quad \text{or}$$

$$7x = 3$$

~~$$x = 3/7$$~~

extraneous

$$3x-4 = -(-4x-1)$$

$$3x-4 = 4x+1$$

$$-5 = x$$

Solve

$$|2x - 5| > 3 \quad \left\} \text{Great OR Than}\right.$$

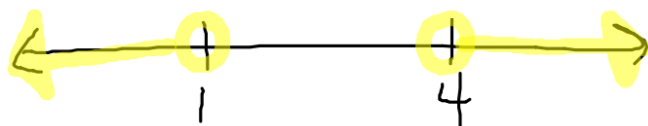
$$2x - 5 > 3 \quad \text{or} \quad 2x - 5 < -3$$

$$2x > 8$$

$$x > 4$$

$$2x < 2$$

$$x < 1$$



Solve

$$|2x+6| < 8 \quad \left. \vphantom{|2x+6|} \right\} \text{Less Than AND}$$

$$2x+6 < 8 \quad \text{and} \quad 2x+6 > -8$$

$$2x < 2$$

$$2x > -14$$

$$x < 1$$

$$x > -7$$



Solve

$$|3x-4| + 5 \leq 27$$

$$|3x-4| \leq 22$$

} Isolate
Absolute Value

