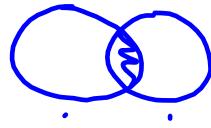
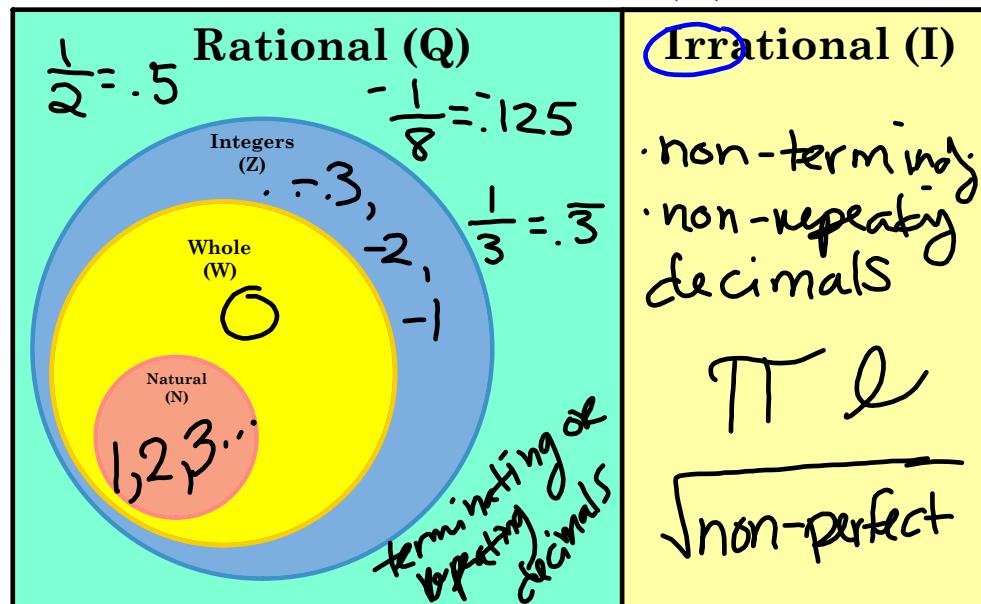
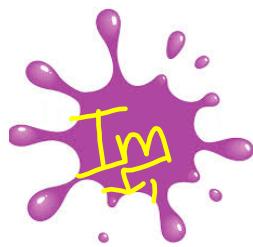


Chapter 1A

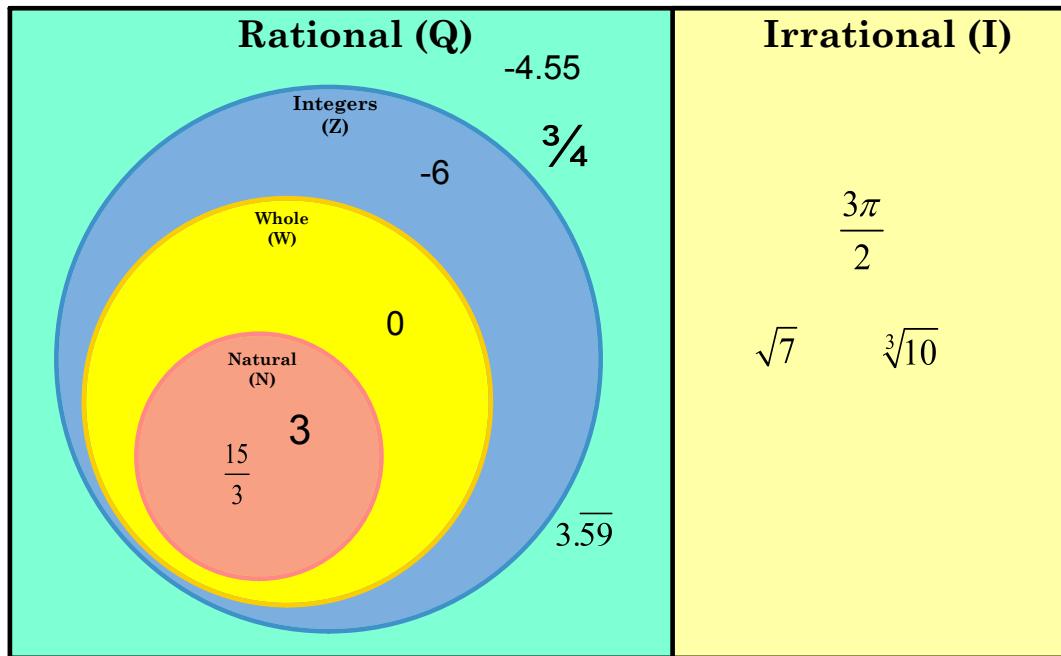
- Number Sets
- Solving Equations
- Solving Absolute Value Equations
- No CCSS



Real Numbers (R)



Real Numbers (R)



Examples:

1. Name the sets of numbers to which each number belongs.

- a. $-\frac{2}{3}$ b. 9.9999... c. $\sqrt{6}$ d. $\sqrt{100}$

2. Give an example of each type of number.

a. integer that is not a natural.

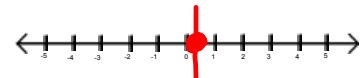
b. rational, but not a N, W, or Z

c. irrational

d. W that is not a N.

Solving Equations

- use inverse operations to isolate the variable.
- check answers by plugging answer back into original equation.
- answers are given in a solution set {solution} or on a number line.



$$x = 3 \quad \{ 3 \}$$

Examples.

Solve the following equations.

a. $53 = 3(y - 2) - 2(3y - 1)$

$$53 = 3y - 6 - 6y + 2$$

$$53 = -3y - 4$$

$$57 = -3y$$

$$-19 = y$$

b. $\frac{4}{9}(4m + 5) = \frac{4}{9} \cdot 9$

$$36m + 45 = 4$$

$$36m = -41$$

$$m = \frac{-41}{36}$$

4. Solve for the desired variable.

a. $4y - 2n = 9$, solve for y

$$4y = 9 + 2n \quad | :4$$

$$y = \frac{9}{4} + \frac{1}{2}n$$

b. $A = \frac{1}{2}h(a+b)$, solve for b

$$\frac{2A}{h} = a+b$$

$$\frac{2A}{h} - a = b$$

c. $x = \frac{-b}{2a}$, solve for a.

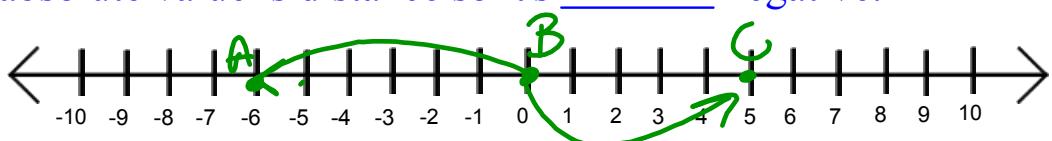
$$\cancel{\frac{2ax}{2x}} = \frac{-b}{2x}$$

$$a = \frac{-b}{2x}$$

Absolute Value Equations

absolute value = the distance a number is away from zero on the number line.

- absolute value is distance so it's NEVER negative.



1. $|A| = 6$

4. $|6| = 6$

7. $|x| = 5$ $5, -5$

2. $|B| = 0$

5. $|-3| = 3$

8. $|x+1| = 5$ $\begin{matrix} 5 \\ -5 \end{matrix}$ $4, -6$

3. $|C| = 5$

6. $|4-9| = 5$

9. $|x-2| = 4$ $\begin{matrix} 6 \\ -2 \end{matrix}$

$$x-1=5 \quad x+1=5$$

$$x=6 \quad x=-4$$

$$x-2=4 \quad x-2=-4$$

$$x=6 \quad x=2$$

To Solve Equations involving absolute value:

- isolate the absolute value.
- rewrite as two separate equations.
- solve each equation.
- check solutions, could be extraneous.
- write solutions in a solution set {} or graph on a # line.

Examples: Solve the following absolute value equations.

$$1. |y+3|=8$$

$$\begin{aligned} y+3 &= 8 \text{ or} \\ y &= 5 \\ y &= -11 \end{aligned}$$

$$2. \frac{3|p-5|}{3} = \frac{2p}{3}$$

$$\begin{aligned} |p-5| &= \frac{2p}{3} \\ p-5 &= \frac{2p}{3} \cdot 3 \\ p-5 &= 2p \\ p &= 15 \\ \frac{2}{3}p &= 5 \cdot \frac{3}{5} \\ p &= 3 \end{aligned}$$

$$3. |15+m| = -2m + 3$$

