

Warm Up

1) Solve $3x - 5 = 20$

4) Combine Like Terms: $5b - c - 9b + 8c$

2) Solve $\frac{x + 3}{5} = 12$

5) Distribute $2(3x - 4y + 1)$

3) $-24 = 2x + 8$

6) Simplify: $-5(-6x + 2y - 7) - x + 4$

Bonus: What is the value that results in #5 if $x = -1$ and $y = 2$?

The Real Number System

Real Numbers

values in our number system

Natural Numbers

counting numbers

1, 2, 3, ...

Rational Numbers

#'s that can be written as a fraction

$\frac{2}{3}$, 0.5

Irrational Numbers

#'s that cannot be written as a fraction

$\sqrt{4}$, negative square roots

Whole Numbers

all positive numbers including 0

0, 1, 2, ...

Integers

whole numbers and their opposites

-1, 1

The Real Number System

Perfect Squares

Ex) **1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, 169, 196, 225...**

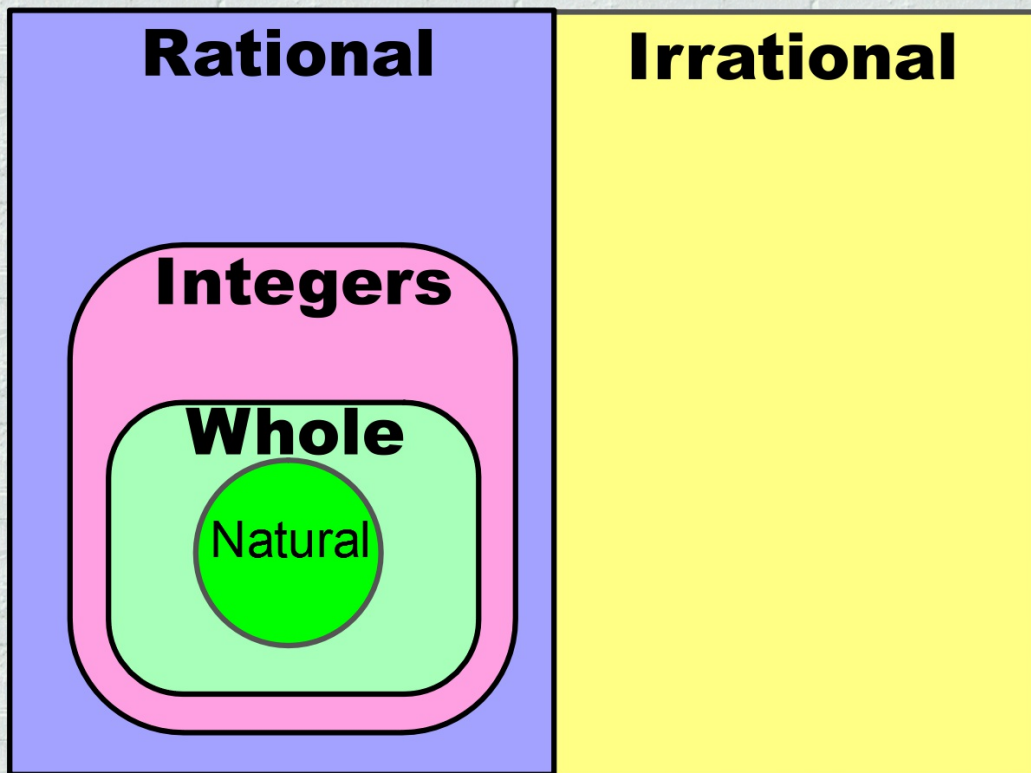
the product of an integer multiplied by itself
(are rational numbers)

Non-perfect Squares **2, 3, 5, ...** (are irrational numbers)

Square Roots

one of two factors that is multiplied to get a product

The Real Number System



Write all the names that apply to each number

1. $\sqrt{12}$

2. 0.15

3. $\frac{\sqrt{25}}{-2}$

4. $\sqrt{49}$

5. -1

6. $\sqrt{-8}$

State whether the number is rational, irrational, or not a real number.

1. $\sqrt{4}$

2. $\sqrt{\frac{4}{25}}$

3. $-\sqrt{-2}$

4. $-\sqrt{36}$

5. $\frac{2}{0}$

6. $\sqrt{\frac{16}{-25}}$

Do on Your Own: Name each term

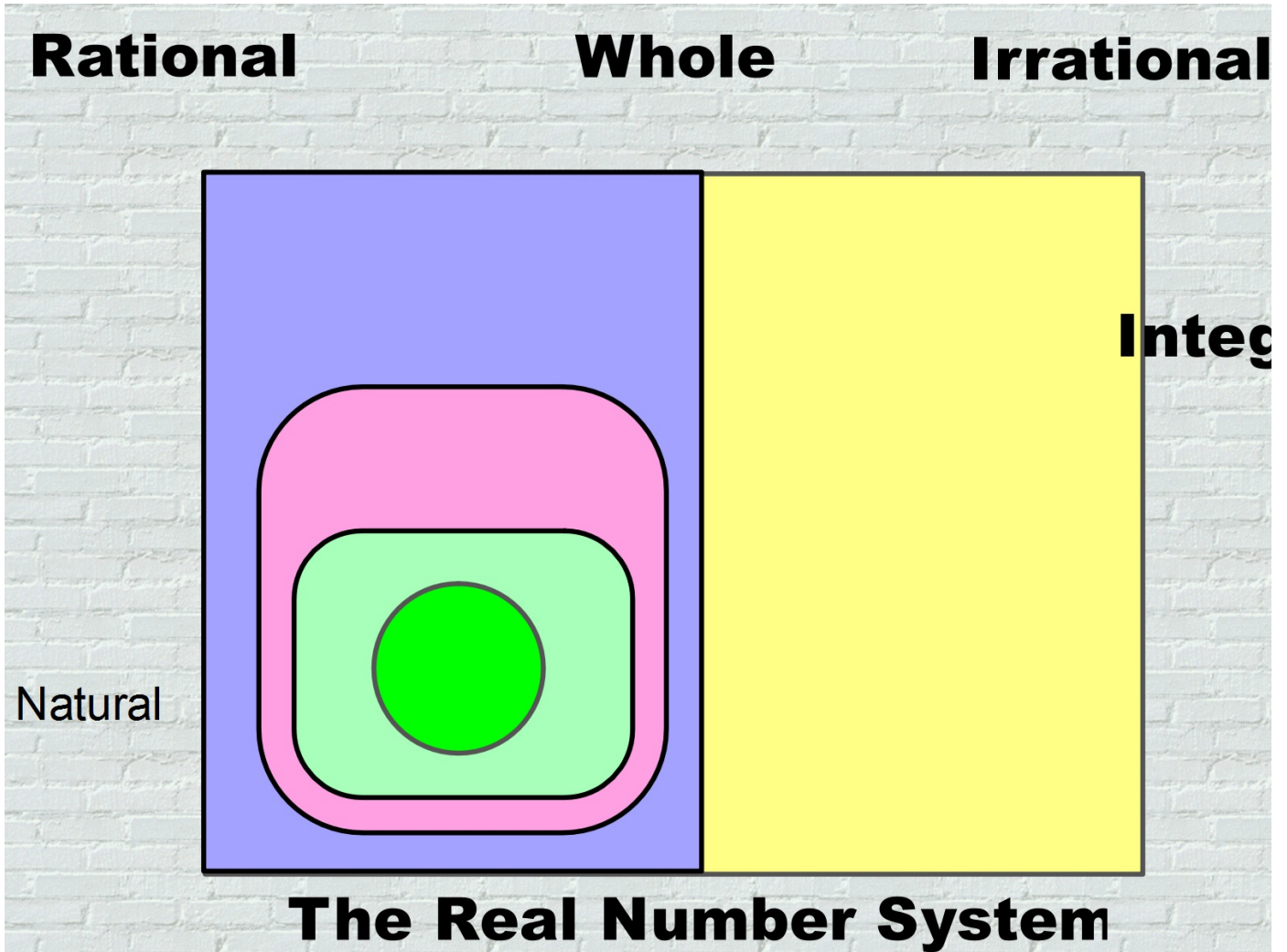
1. $\sqrt{2}$

2. -9.3

3. $\sqrt{-16}$

Warm Up

Complete the Real Number Hexagon



Warm Up:

Evaluate each expression:

1. $\sqrt{121}$

2. $\sqrt{441}$

3. $\sqrt{169}$

4. $\sqrt{9 + 16}$

5. $\frac{\sqrt{64}}{4}$

6. $2\sqrt{100} - 75$