

Bellringer

1. Is the $\sqrt{64}$ a perfect square? If so, what is it?
2. What is the square root of 144?
3. Name 2 perfect cubes.

1.2 Sets of Real Numbers

8.NS.1

Know that numbers that are not rational are call irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number

Vocabulary

Real Numbers - Contain all rational and irrational numbers

Rational Numbers - can be written as a ratio (fraction)

Integers - any whole number and its opposite

Whole Numbers - any non-negative number

- includes zero
- No fractions/decimals

Natural Numbers - All positive numbers (does not include zero, fraction, decimal)

Irrational Numbers - Not rational, cannot be written as a fraction

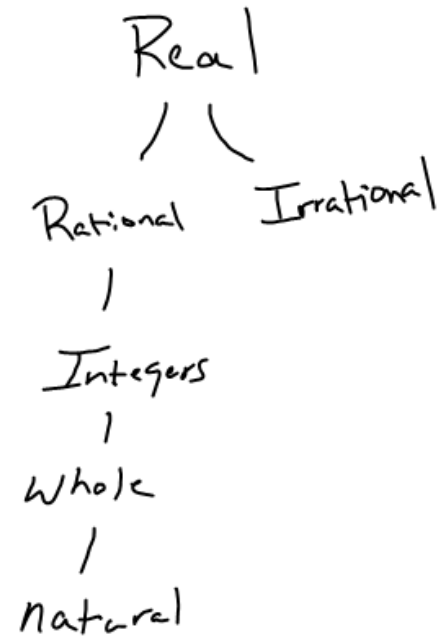
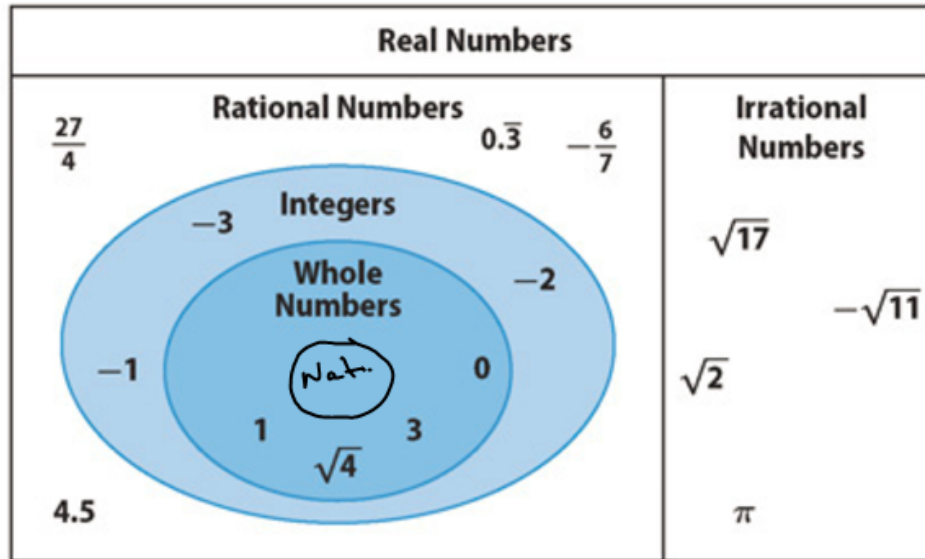
2 = Nat., Whole, Int.,
Rat., Real

0 = whole, Int., Rat.,
Real

-6 = Int., Rat., Real

$\frac{1}{3}$ = Rat., Real

$\sqrt{3}$ = Irr., Real



$\sqrt{36}$ = whole, Int., Rat., Real

$\frac{28}{7}$ = Nat., whole, Int., Rat., Real

$.4\bar{5}$ = Rat., Real

EXAMPLE 1COMMON
CORE

8.NS.1

Write all names that apply to each number.

A $\sqrt{5}$

Irrational
Real

B -17.84

Rational
Real

$$-17 \frac{84}{100}$$

C $\frac{\sqrt{81}}{9} = \frac{9}{9}$ or $\frac{-9}{9} = 1$ or -1

whole, natural, Integer,
Rational, Real

YOUR TURN

Q

Write all names that apply to each number.

1. A baseball pitcher has pitched $12\frac{2}{3}$ innings.

2. The length of the side of a square that has an area of 10 square yards. _____



Additional Examples...

(1) $-10 = \text{Integer, Rational, Real}$

(2) $\frac{12}{3} = \text{Natural, Whole, Integer, Rational, Real}$

(3) $\sqrt{2} = \text{Irrational, Real}$

(4) \textcircled{T}/F All whole ~~ts~~s are integers

HW

GP p18 1-13

JP p19 14-19

Guided Practice



Guided Practice

Personal
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and Intervention.



Selected
Answers

See all the
selected answers.



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Write all names that apply to each number. (Example 1)

1. $\frac{7}{8}$

Rat. R.N

3. $\sqrt{24}$

5. 0

7. $5.\overline{45}$

2. $\sqrt{36}$

4. 0.75

6. $-\sqrt{100}$

8. $-\frac{18}{6}$
