LESSON 3-1

Reading Strategies

Use a Graphic Organizer

Rational Numbers

Definition

The set of numbers that can be written in the form $\frac{a}{b}$, where a and b are integers and b does not equal 0.

Facts

Fractions are rational numbers.
Decimals that terminate or repeat are rational numbers.
Whole numbers are rational numbers.
Integers are rational numbers.
0 is a rational number.

Examples

$2 = \frac{2}{1}$
$\frac{7}{8}$
$0.37 = \frac{37}{100}$
$4\frac{1}{4} = \frac{17}{4}$
$-5 = -\frac{5}{1}$

Non-examples

$\sqrt{3}$ (the square root of 3)
π (3.14159…)
$\sqrt{3}$ and π cannot be written as decimals that terminate or repeat.

Use the chart to answer the following questions.

1. What is a rational number?

any number that can be written in the form $\frac{a}{b}$

2. Is 0.62 a rational number? Why or why not?

yes, because it can be written as $\frac{62}{100}$

3. Is $2\frac{1}{3}$ a rational number? Why or why not?

yes, because it can be written as $\frac{7}{3}$

4. Is $\sqrt{7}$ a rational number? Why or why not?

no, because it cannot be written as a decimal that terminates or repeats.

5. Is -8 a rational number? Why or why not?

yes, because it can be written as $\frac{-8}{1}$

6. Is 0 a rational number? Why or why not?

yes, because it can be written $\frac{0}{1}$

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