Unit 1

The Number System

Homework

CLASSIFYING: IRRATIONALS VS RATIONALS

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Score __ / __

Name: _____

Date: _____

Per: ____

Circle One
Due: M T W Th F

The Number System
(Classifying: Irrationals vs Rationals)

Directions: Answer problems #1-5. Show all of your work!

1 What is the difference between rational and irrationals?

2 Give two examples of rational numbers and explain why the numbers are rational.

5 Circle all irrationals below:

5.6 $8.\overline{3}$ $\sqrt{8}$ $0.085634\ldots$

172.34 $\sqrt{16}$ -5 π $6.454545\ldots$

0 $\frac{2}{3}$ -100 $-3.\overline{4}$ $\sqrt{36}$

2 $-\frac{1}{4}$ $1.432432\ldots$ $5.\overline{67}$

$-\pi$ $-9{,}999.99$

3 Give two examples of irrational numbers and explain why the numbers are irrational.

4 Circle all rationals below:

3.22 $-3.7561\ldots$ $\frac{4}{5}$

π $\sqrt{81}$ 0.0004 -9.25

0.8 $3.\overline{3}$ $4.8787\ldots$ $-\pi$ -7

$\sqrt{12}$ $\frac{3}{4}$ $-7.365214\ldots$ $-9\frac{3}{4}$

-6.5 $-\frac{2}{5}$ 5 $\sqrt{45}$ $-2.\overline{1}$

The Number System

(Classifying: Irrationals vs Rationals)

Directions: Answer problems #6-8. Show all of your work!

6 Find the mistake!

Classify the following number then justify your reasoning:

6363.63

This number is rational because it is a repeating decimal.

Circle the mistake below and explain why it is wrong:

Explanation:

7 Be Creative!

Create your own word problem and solve below:

8 Reflection:

From this homework assignment, I …

Score __ / __

ANSWER KEY

Circle One
Due: M T W Th F

The Number System
(Classifying: Irrationals vs Rationals)

Directions: Answer problems #1-5. Show all of your work!

1 What is the difference between rational and irrationals?

Rational numbers can be expressed as a fraction, integers, repeating decimals, terminating decimals, and perfect squares. Irrational numbers cannot be expressed as a fraction (non-perfect squares, non-terminating decimals and non-repeating decimals.

2 Give two examples of rational numbers and explain why the numbers are rational.

Answers will vary.

An example is 7.8 because this number is a terminating decimal.

Another example is $\sqrt{9}$ because it is a perfect square.

5 Circle all irrationals below:

5.6 $8.\overline{3}$ $\sqrt{8}$ $0.085634\ldots$

172.34 $\sqrt{16}$ -5 π $6.454545\ldots$

0 $\frac{2}{3}$ -100 $-3.\overline{4}$ $\sqrt{36}$

2 $-\frac{1}{4}$ $1.432432\ldots$ $5.\overline{67}$

$-\pi$ $-9{,}999.99$

3 Give two examples of irrational numbers and explain why the numbers are irrational.

Answers will vary.

An example is 0.85672… because this number is non-terminating and non-repeating.

Another example is $\sqrt{10}$ because it is a non-perfect square.

4 Circle all rationals below:

3.22 $-3.7561\ldots$ $\frac{4}{5}$

π $\sqrt{81}$ 0.0004 -9.25

0.8 $3.\overline{3}$ $4.8787\ldots$ $-\pi$ -7

$\sqrt{12}$ $\frac{3}{4}$ $-7.365214\ldots$ $-9\frac{3}{4}$

-6.5 $-\frac{2}{5}$ 5 $\sqrt{45}$ $-2.\overline{1}$

The Number System

(Classifying: Irrationals vs Rationals)

Directions: Answer problems #6-8. Show all of your work!

6 Find the mistake!

Classify the following number then justify your reasoning:

6363.63

This number is rational because it is a repeating decimal.

Circle the mistake below and explain why it is wrong:

Explanation:

The number is rational because it is a terminating decimal. It is not a repeating decimal.

7 Be Creative!

Create your own word problem and solve below:

In order to receive credit, students need to create their own word problem and solve it. They will not receive credit if they do not provide a word problem. Also, it needs to be a word problem involving adding decimals.

8 Reflection:

From this homework assignment, I …

Students need to write a good reflection about 2-3 sentences long. They cannot write "I learned how to do math" or anything similar. The reflection needs to show serious thought.

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Miss THONE

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