

Name _____
Mrs. Roubos

Date _____
8R Period _____

Quiz #1 Review: Number Theory

I.***Study all of your definitions from Day 1. You will have multiple choice questions on those definitions.

II. State whether the following is a rational or irrational number and why.

1) $\frac{8}{9}$

2) $\sqrt{5}$

3) π

4) $.4545\overline{45}\dots$

III. Classify the following examples as a real or not real, natural, whole , or integer and rational or irrational.

5) -3

6) $\sqrt{-9}$

7) 2.6849251...

8) $\frac{2}{6}$

IV. Reduce the following fractions into their simplest form.

9) $\frac{10}{35}$

10) $\frac{16}{24}$

11) $\frac{15}{30}$

V. Convert the following fractions into decimals. Round to the nearest hundredth (Use long division)

12) $\frac{2}{9}$

13) $\frac{1}{5}$

14) $\frac{4}{7}$

VI. Write the place value of the underlined number

15) 0.4321

16) 6.087

17) 0.52163

VII. Write each of the following decimals as fractions in simplest form.

18) 0.5

19) .222222 $\bar{2}$

20) 5.32

21) .326

22) .565656 $\bar{56}$

23) 5.777777 $\bar{7}$

Quiz #1 Review: Number Theory

I. ***Study all of your definitions from Day 1. You will have multiple choice questions on those definitions.

II. State whether the following is a rational or irrational number and why.

<p>1) $\frac{8}{9}$ Rational b/c it can be written as a fraction where the denominator is not zero</p>	<p>2) $\sqrt{5}$ Irrational b/c it is a non-terminating, and non-repeating decimal</p>	<p>3) π Irrational b/c it is a non-terminating and non-repeating decimal</p>	<p>4) .454545... Rational b/c it can be written as a fraction where the denominator is not zero (means repeating decimal)</p>
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III. Classify the following examples as a real or not real, natural, whole, or integer and rational or irrational.

<p>5) -3 - Real - integer - rational</p>	<p>6) $\sqrt{-9}$ NOT Real can't have a neg. under the radical $\frac{\#}{0} = \text{NOT Real}$ other example</p>	<p>7) 2.6849251... - Real - Irrational</p>	<p>8) $\frac{2}{6}$ - Real - Rational</p>
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IV. Reduce the following fractions into their simplest form.

<p>9) $\frac{10}{35} \div 5$ $\frac{2}{7}$</p>	<p>10) $\frac{16}{24} \div 8$ $\frac{2}{3}$</p>	<p>11) $\frac{15}{30} \div 15$ $\frac{1}{2}$</p>
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Calc: A/b/c

long division

Calc: Num $\frac{\square}{\square}$ Denom \square

V. Convert the following fractions into decimals. Round to the nearest hundredth

12) $\frac{2}{9} = 0.\overline{22}$

$$\begin{array}{r} 9 \overline{) 2.000} \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 20 \\ \underline{-18} \\ 20 \end{array}$$

0.22

13) $\frac{1}{5} = 0.20$

$$\begin{array}{r} 5 \overline{) 1.00} \\ \underline{-10} \\ 00 \end{array}$$

0.20

14) $\frac{4}{7} = 0.57$

$$\begin{array}{r} 7 \overline{) 4.000} \\ \underline{-35} \\ 50 \\ \underline{-49} \\ 10 \\ \underline{-7} \\ 30 \\ \underline{-28} \\ 20 \\ \underline{-14} \\ 60 \\ \underline{-56} \\ 40 \\ \underline{-35} \\ 50 \end{array}$$

0.57

VI. Write the place value of the underlined number

15) 0.4321

ten-thousandths

16) 6.087

tenths

17) 0.52163

hundredths

Calc. $\sqrt{2na}$ PRB

VII. Write each of the following decimals as fractions in simplest form.

18) 0.5

$$\frac{5}{10} \div 5 = \frac{1}{2}$$

19) $0.\overline{222222}$

$$\frac{2}{9}$$

Terminating $\frac{4}{10}$ Two Two
Repeating $\overline{9}$ $\overline{99}$ $\overline{999}$

20) 5.32

$$5 \frac{32}{100} \div 4 = 5 \frac{8}{25}$$

21) .326

$$\frac{326}{1000} \div 2 = \frac{163}{500}$$

22) $0.\overline{565656}$

$$\frac{56}{99}$$

23) $5.\overline{777777}$

$$5 \frac{7}{9}$$

$2.\overline{235}$
 2.24