

Geometry

Good morning!  
 Find your seat  
 Start on the Student information sheet  
 Welcome  
 Index cards  
 Pretest  
 Day1 - Geometry Vocabulary

Aug 1-8:49 AM

Name \_\_\_\_\_  
 Date \_\_\_\_\_  
 GSE Analytic Geometry, Pd \_\_\_\_\_  
 Mod 0, Pre-test

1. A regular pentagon is centered about the origin and has a vertex at (5, 4).  
 Which transformation maps the pentagon to itself?  
 A. a reflection across the x-axis  
 B. a reflection across the y-axis  
 C. a clockwise rotation of 360° about the origin  
 D. a clockwise rotation of 144° about the origin

2. Figure ABCDP is a dilation of figure ABCD by a scale factor of 2. The dilation is centered at (4, -10).

3. Parallelogram PQRS was translated 2 units down to form parallelogram P'Q'R'S'. Parallelogram P'Q'R'S' has the same 90° counterclockwise angle of rotation as parallelogram PQRS.

4. In the diagram,  $\overline{DE}$  is the perpendicular bisector of  $\overline{AB}$ . The bisector point shows that  $\overline{DE}$  is perpendicular to  $\overline{AB}$ .

Question	Statement	Answer
1	$\overline{DE}$ is the perpendicular bisector of $\overline{AB}$	True
2	$\overline{DE} \perp \overline{AB}$	True
3	$\overline{DE} \perp \overline{AB}$	True
4	$\overline{DE}$ and $\overline{AB}$ are right angles	True
5	$\angle ADE \cong \angle BDE$	True
6	$\angle ADE \cong \angle BDE$	True
7	$\angle ADE \cong \angle BDE$	True

Aug 1-8:59 AM

Geometry - Unit 1 Day 1		Vocabulary Notes		Name _____
Undefined Terms:	Description	Picture	Naming	
Point	A undefined term in geometry. Name's a location & has no size.		CAPITAL LETTERS ONLY ONE LETTER	
Line				
Plane				
Defined Terms:				
Line Segment				
Ray				
Perpendicular Lines				
Parallel Lines				
Perpendicular Bisector				

Aug 1-9:01 AM

Circle				
Angle				
Classifying Angles:				
Acute				
Right				
Obtuse				
Straight				
Reflex				

Aug 1-9:02 AM

Get a notebook - this is your cheat book...  
 HO Rational Numbers  
 Explore Weebly  
 sign up for Remind  
 look at some resources on Remind

Aug 1-9:04 AM

First entry in our 'cheat notebook.'  
 Order these numbers from least to greatest  
 70, -4, 0.3, sqrt(9), 2/3

Aug 2-9:12 AM

Day 1 - The Real Number System

The **REAL # SYSTEM** is divided into two categories: rational and irrational.

**RATIONAL** Numbers: real numbers such as  $\frac{1}{2}$  and  $-\frac{3}{11}$  that can be written as a ratio of two integers.

**IRRATIONAL** Numbers: real numbers such as  $\sqrt{2}$  or  $\pi$  that are not rational.

Rational Numbers include: **WHOLE #S**, **quotients**, and **fractions** that can be written as the ratio of two integers.

Integers: **can be + or - but are not fractions** Ex:  $0, 1, 8, -2$

Whole Numbers: **and the natural #s** Ex:  $5, 80$

Natural Numbers: **the counting #s which occur in nature** Ex:  $9, 5, 20$

**THE REAL NUMBER SYSTEM**  $T_9 = 3$

<b>RATIONAL</b> $\frac{1}{2}, -\frac{3}{11}, \frac{3}{4}, 2.25$	<b>IRRATIONAL</b> $\pi = 3.14157...$ $\sqrt{2} = 1.41...$ $-\pi = -3.14157...$
<b>INTEGERS</b> -3 9 Whole 20 0 5 Natural 12 3 13, 7, 3, 3	

Aug 2-8:08 AM

Foundations of Algebra Unit 1 - Rational and Irrational Numbers Notes

**Zero** - **NO VALUE**  $\leftarrow \frac{-\#}{0} \rightarrow$   $\frac{0}{+\#}$   
 Zero is not  $\frac{0}{0}$  or  $\frac{\#}{0}$ . Zero does not have an **opposite** number.

**Graphing Numbers on a Line**  
 Graph the following on a number line and compare.

Absolute Value  
 The  $|x|$  of a number is its distance from zero.  
 The notation for absolute value is  $|x|$ .

Using the number line, find the absolute value of each.  
 A.  $|5|$   
 B.  $|-8|$

**Finding the Opposite of a Number**  
 The opposite of a number is the same distance from zero. Both numbers have the same absolute value.

Using the number line, find the opposite of the following:  
 A. Opposite of 2:  
 B. Opposite of -11:

**Real Numbers in the Real World**  
 What number would represent the following situations?  
 A. A hawk descends at 150 miles per hour when striking its prey.  
 B. A skier wins a downhill race by skiing at 126 miles per hour.

Aug 2-8:08 AM

Foundations of Algebra Unit 1 - Rational and Irrational Numbers Notes

Day 2 - Rational Numbers and Operations

Any number that can be written as a  $\frac{a}{b}$  is a rational number.  
 Rational numbers include: fractions, terminating and repeating  $\frac{a}{b}$  ratios, and  $\frac{a}{b}$ .

**Equivalent Rational Numbers**  
 To change fractions to decimals and decimals to fractions, we will use the  $\frac{a}{b} \times \frac{c}{c}$  button.

Ex: How can a loss of 5/8 per share be recorded as a decimal?  
 By 8: Write each fraction or mixed number as an equivalent decimal. Round to the nearest hundredth.

1.  $-\frac{3}{8} = -0.375$     2.  $\frac{2}{11} \approx 0.18$     3.  $2\frac{1}{5} = 2.2$     4.  $-\frac{11}{5} = -2.2$

**Comparing and Ordering Decimals**  
 Compare the digits in each place-value position, moving  $\frac{a}{b}$  from right to left.  
 Ex: Compare the following using  $<$ ,  $>$ , or  $=$ .

1.  $94.365$   $>$   $94.3653$     2.  $-8.20309$   $<$   $-8.204$     3.  $-4.2$   $<$   $-4\frac{1}{5}$

Ex: Put the following in order from least to greatest.

1.  $0.04$ ,  $0.027$ ,  $0.2$ ,  $0.078$

2.  $-0.574$ ,  $-0.98$ ,  $-0.5367$ ,  $-0.0875$

Aug 1-9:04 AM

Foundations of Algebra Unit 1 - Rational and Irrational Numbers Notes

Ex: Without using the calculator, tell whether the fraction is closest to -1, -1/2, 0,  $\frac{1}{2}$ , or 1.

1.  $\frac{11}{20}$     2.  $-\frac{8}{14}$     3.  $\frac{3}{25}$     4.  $\frac{2}{11}$

**Adding Rational Numbers**  
 When adding two rational numbers, the sum will be the sign of the number with the  $\frac{a}{b}$  absolute value.

Ex: Find the sum.  
 1.  $5 + |8| = 13$     2.  $-7 + 21 = 14$

**Multiplying Rational Numbers**  
 When multiplying two positive numbers, the product is  $\frac{a}{b}$ .  
 When multiplying two negative numbers, the product is  $\frac{a}{b}$ .  
 When multiplying a positive and a negative number together, the product is  $-\frac{a}{b}$ .

	POSITIVE	NEGATIVE
POSITIVE	$\frac{a}{b}$	$-\frac{a}{b}$
NEGATIVE	$-\frac{a}{b}$	$\frac{a}{b}$

Examples:  
 1.  $\frac{1}{8} \times \frac{2}{3} = \frac{1 \times 2}{8 \times 3} = \frac{2}{24} = \frac{1}{12}$     2.  $2\frac{1}{2} \times (\frac{1}{3}) = \frac{5}{2} \times \frac{1}{3} = \frac{5}{6}$

**Real World Applications**

1. In an online survey, about  $\frac{1}{3}$  of teenagers go to sleep between 9 and 10PM, while  $\frac{13}{50}$  of teenagers go to sleep at 12AM or later. Which group is larger?

2. Tessa feeds her dog Roscoe 3.75 cups of dog food per day. If she buys a bag of food that contains 145 cups, how many days will the bag of food last?

Aug 2-8:06 AM