

DATE:

Algebra 2

Section:

Name:

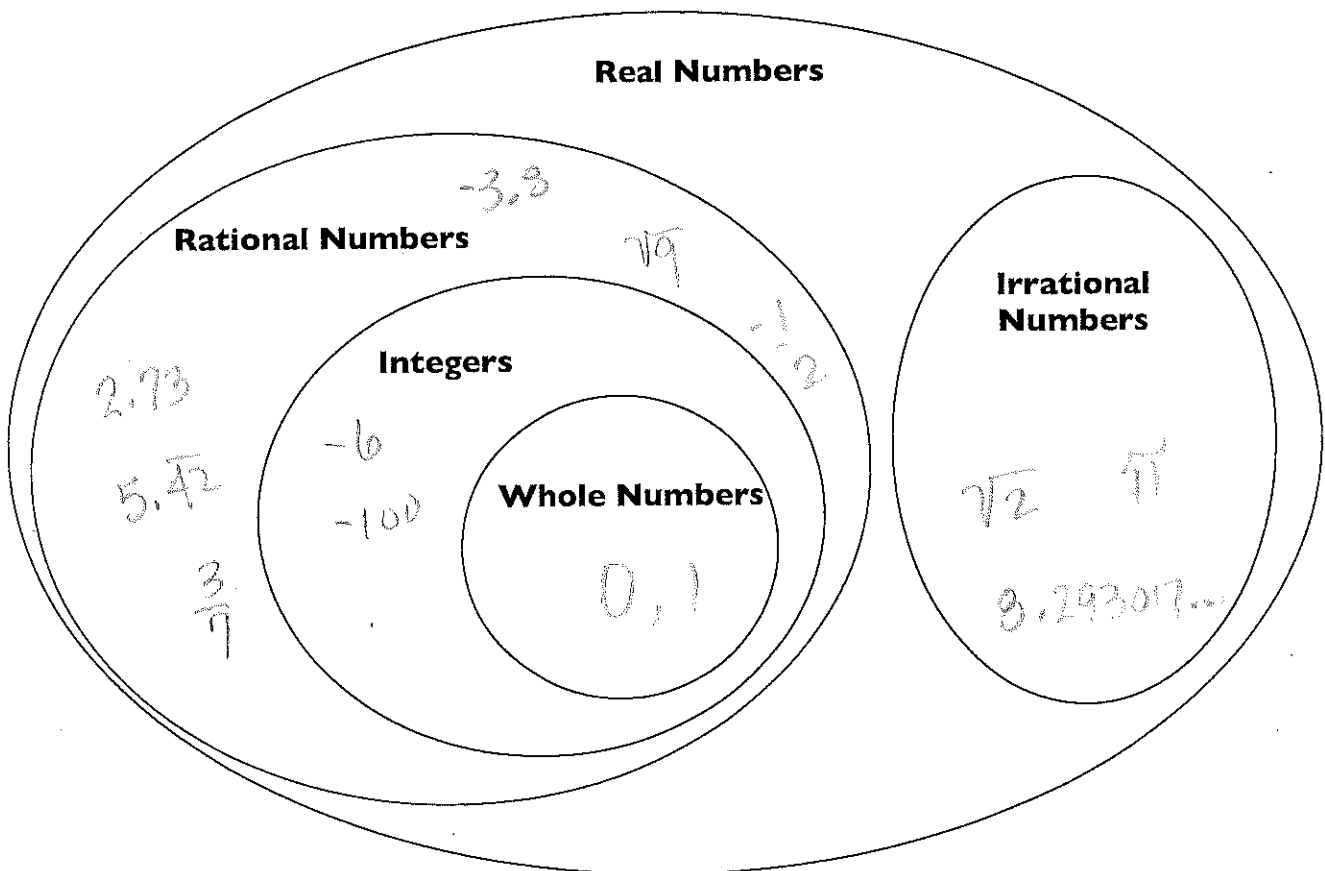
Unit 1, Lesson 2: Classwork 1-2

Classifying Real Numbers

Directions:

Write each number in the correct location on the Venn Diagram of the real number system. Each number should be written only once.

$\left\{ -6, 2.73, \frac{3}{7}, \sqrt{2}, \sqrt{9}, -100, 0, \pi, 1, -\frac{1}{2}, -3.8, 5.42, 8.293017... \right\}$



True or false? If false, explain why.

1) All whole numbers are integers. *False*
Whole #s are positive #s

3) Some rational numbers are integers. *True*

2) All integers are whole numbers. *True*

4) Some whole numbers are irrational numbers. *False*



Understanding Real Numbers

- 1) List the numbers in the set $\left(\frac{4}{5}, -18, 0, \sqrt{5}, \frac{1}{2}, -2.01, 5, \pi, 2.5\overline{13}, 5.1823159\dots\right)$ that are:

Whole numbers 5, 0

Integers 5, -18

Rational numbers 5, -2.01, $\frac{1}{2}$, -18, $\frac{4}{5}$, 0, $2.5\overline{13}$

Irrational numbers π , $\sqrt{5}$, 5.1823159...

Real numbers all

- 2) Put a check mark for **each set** that the number is a part of:

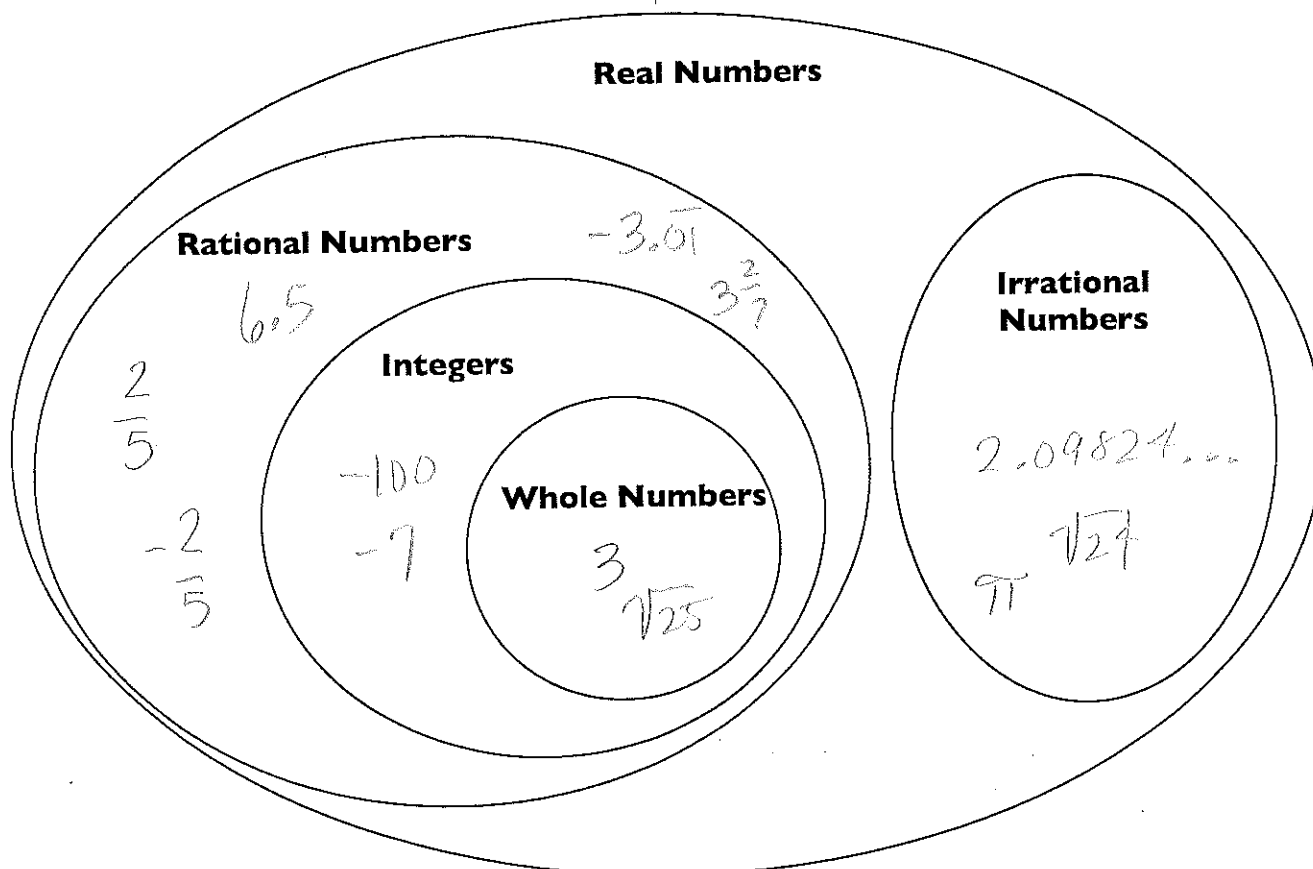
	Whole Numbers	Integers	Rational Numbers	Irrational Numbers	Real Numbers
-7		✓	✓		✓
$\frac{3}{4}$			✓		✓
$\sqrt{2}$				✓	✓
5	✓	✓	✓		✓
0.398			✓		✓

- 3) True or false? If false, explain why.

- All **integers** are **rational**. true
- If a number is **rational**, then it must be a **whole number**. false, could be decimal or fraction (Ratio)
- Some **irrational numbers** are **integers**. false
- All **irrational numbers** are **real numbers**. true
- No **whole numbers** are **integers**. false, integers include whole numbers

- 17) Write each number in the correct location on the Venn Diagram of the real number system. Each number should be written only once.

~~$\left(3, 2.09824..., \sqrt{25}, \sqrt{24}, \frac{2}{5}, -100, -7, \pi, -\frac{2}{5}, 6.5, -3.01, 3\frac{2}{7} \right)$~~



- 18) List the numbers in the set $\left(-17, 0, \sqrt{3}, -\frac{1}{6}, \frac{5}{7}, 7.99, 8, \pi, 0.03986..., 0.\overline{53} \right)$ that are:

Whole numbers 8, 0

Integers -17

Rational numbers -17, $-\frac{1}{6}$, $\frac{5}{7}$, 7.99, $0.\overline{53}$

Irrational numbers π , 0.03986..., $\sqrt{3}$

Real numbers All

- 19) True or false? If false, explain why.

a. Some **irrational numbers** are **integers**. False

- b. All **rational numbers** are **whole numbers**. *False*
- c. If a number is **not** an **integer**, then it is **not** a **whole number**. *True*
- d. If a number is **not** an **integer**, then it is **not** a **rational number**. *False or $-\frac{1}{2}$*
- e. Some **irrational numbers** are **not** **real numbers**. *False*
- f. No **rational numbers** are **integers**. *False*

20) Put a check mark for each set that the number is a part of:

	Whole Numbers	Integers	Rational Numbers	Irrational Numbers	Real Numbers
0					
2.07					
-35					
$\sqrt{7}$					
$\frac{7}{3}$					

21) Write each number in **fraction** form.

-25	7	0.25	2.913
$3\frac{5}{7}$	0.002	$8\frac{1}{9}$	0.5555...