NAME Key Block____

Unit 1 Lesson 4
Classify, compare, and order numbers.

E.Q.: How do I classify real numbers?

Rational #'s - A # that can be made by dividing 2 integers
- rational
- in decimal form, they end or repeat

2 -13 $\frac{1}{2}$ $\sqrt{36}$ $-\sqrt{4}$ 2.38

Irrational #'s
#'s that cannot be made by ÷ 2 integers

π $\sqrt{7}$ $\sqrt{13}$

- in decimal form, the #'s do not end or repeat

Integers - positive/negative whole #'s NO fractions!
..., -3, -2, -1, 0, 1, 2, 3, ...

Whole #'s (NO FRACTIONS)
0, 1, 2, 3, 4...

Examples: Identify the set(s) to which each number belongs. (Use R, IR, IN, W)

1) 39
W, IN, R

2) $\frac{-2}{7}$
R

3) $\sqrt{36}$
W, IN, R

4) $\sqrt{8}$
IR

5) $-5\frac{2}{3}$
R

6) -2
IN, R

7) $-\sqrt{81}$
IN, R

8) $\frac{11}{3}$
R

E.Q.: How do I compare/order numbers?

Review: Inequality signs

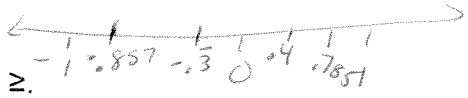
Sign	MEANING	EXAMPLE
>	is greater than	
<	is less than	
≤	is less than or equal to	Answers vary
≥	is greater than or equal to	
≠	is not equal to	

Steps to order numbers:

Express each number as a decimal → Graph them on a number line → Place original form of the #'s in order according to directions

Example: order from least to greatest: $-\frac{1}{3}, .4, -\frac{6}{7}, \frac{\pi}{4}$

$-.33 \quad .4 \quad -.857 \quad .785$



$-\frac{6}{7}, -\frac{1}{3}, .4, \frac{\pi}{4}$

Examples:

Compare using <, >, ≤, and ≥.

1) $\frac{4}{3} < 1.46$

2) $\frac{\pi}{2} < 1\frac{3}{4}$

3) $3.97 > |-3.902|$

Order from least to greatest.

1) $\sqrt{49}, 8, -\sqrt{4}, -3$

7 8 -2 -3

$-3, -\sqrt{4}, \sqrt{49}, 8$

2) $\sqrt{8}, -\frac{2}{5}, -1, 0.6, \sqrt{6}$

2.828 -.4 -1 .6 2.449

$-1, -\frac{2}{5}, 0.6, \sqrt{6}, \sqrt{8}$

3) $-\frac{8}{3}, -\sqrt{5}, 2.6, -1.5, \sqrt{5}$

-2.66 -2.236 2.6 -1.5 2.236

$-\frac{8}{3}, -\sqrt{5}, -1.5, \sqrt{5}, 2.6$