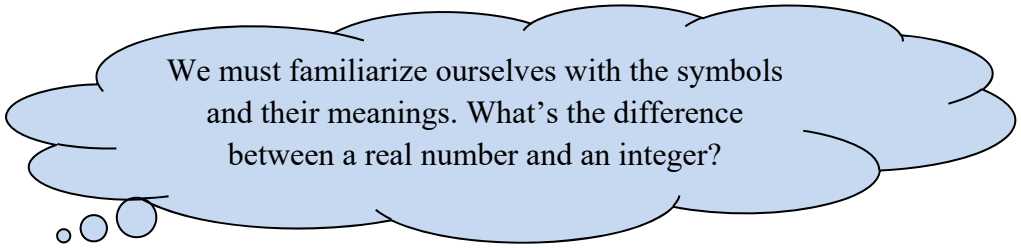

Elementary algebra
Class notes
Symbols and Sets of Numbers (section 9.1)

We will see the following symbols in our work. Can you write out their meanings?

1. $=$
2. $>$
3. $<$
4. $\neq$
5. $\leq$
6. $\geq$
7. $\approx$

There are many mnemonic devices to remember which is "less than" and which is "greater than". How do you remember?

expl 1: Determine which of the following statements are true. If the statement is not true, rewrite it as a true inequality.

a.) $5 < 6$

b.) $5 \leq 6$

c.) $4.465 > 4.645$

d.) $\frac{2}{5} \leq \frac{3}{6}$

e.) $-13 \geq -10$

f.) $14 \leq 14$

expl 2: Rewrite the inequalities below so that the inequality symbol points in the opposite direction but the inequality has the same meaning as before.

a.) $-15 \geq -20$

b.) $5 < 6$

expl 3: Write the sentence as an inequality.

a.) Five is less than fourteen.

b.) Eighty is greater than or equal to forty-five.

c.) Negative seven is less than zero.

expl 4: Use an integer to represent the numbers in the following scenario.

a.) Mario owes Steve fourteen dollars.

b.) Mario made one hundred dollars this weekend.

expl 5: Draw a number line with tick marks for the integers from -5 through 5. Then graph and label the following numbers.

$-4,\ 0,\ 1/2,\ \frac{-5}{2}, 3.5$

The Number Systems:

What kinds of numbers do you remember studying? Name as many as you can. Then try to remember what their differences are.

We will talk about real numbers, integers, natural numbers, whole numbers, rational numbers, and irrational numbers. Do you know them?

expl 6: Tell to which set(s) the given number belongs. Your choices are real numbers, integers, natural numbers, whole numbers, rational numbers, and irrational numbers. A number will likely belong to more than one set.

a.) 0

b.) –8

c.) $\frac{1}{2}$

d.) 6.8

e.) $\sqrt{5}$