

TITLE OF LESSON

Algebra 1 Unit 1 Lesson 32 – Axiom of Comparison, Transitive Axiom of Inequality, Additive Axiom of Inequality

You Do Speak Math: Creation of the Individual

TIME ESTIMATE FOR THIS LESSON

One class period

ALIGNMENT WITH STANDARDS

California – Algebra 1:

1.0 Students identify and use the arithmetic properties of subsets of integers and rational, irrational, and real numbers, including closure properties for the four basic arithmetic operations where applicable:

MATERIALS

None

LESSON OBJECTIVES

- To introduce and demonstrate the Axiom of Comparison, Transitive Axiom of Inequality, Additive Axiom of Inequality and the multiplicative axiom of inequality
-

FOCUS AND MOTIVATE STUDENTS

- 1) Homework Check – Stamp/initial complete homework assignments. Pass back graded assignments and have students place in folders.
 - 2) **Agenda** – Have students copy the agenda you posted.
-

ACTIVITIES – INDIVIDUAL AND GROUP

1. **Vocabulary** – Define the axiom of comparison. For all real numbers either $a < b$ or $a = b$ or $a > b$
2. Discuss – Lead a discussion on what this means. Can something be both greater than and less than something at the same time? Can something be equal to something and greater than something at the same time? Watch out for students replying yes to these questions. We need to distinguish what parameter we are talking about. Someone could be a better singer than someone else but a worse artist. This does not mean that they are greater than and less than in this context.
3. **Vocabulary** – Define the transitive axiom of inequality. If $a < b$ and $b < c$ then $a < c$. and similarly if $a > b$ and $b > c$ then $a > c$.
4. Discuss – Lead a discussion on what this means. Give some examples. Use the number line.
5. **Brainstorm** – Brainstorm for examples in various realms (e.g. music, art, dance, movement etc.)
6. **Vocabulary** – Define the additive axiom of inequality. If $a < b$ then $a + c < b + c$ and similarly if $a > b$ then $a + c > b + c$
7. Discuss – Lead a discussion on what this means. Give some examples. Use the number line.
8. **Brainstorm** – Brainstorm for examples in various realms (i.e. music, art, dance, movement etc.)

9. **Vocabulary** – Define the Multiplicative axiom of inequality. If $a < b$ and $c > 0$ then $ac < bc$ and if $a > b$ and $c > 0$ then $ac > bc$ and if $a < b$ and $c < 0$ then $ac > bc$ and if $a > b$ and $c < 0$ then $ac < bc$ (we will come back to this next class).

10. Homework Review.

HOMEWORK

Come up with two examples for each of the first three properties and demonstrate using the number line.

GROUP ROLES

Students will be working individually during this class period, unless a student needs help.

DOCUMENTATION FOR PORTFOLIO

None