Algebra 1 (CCSP)

Section 2.1: Graphing and Writing Inequalities

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objectives**: Students will be able to identity solutions of inequalities in one variable.

Students will be able to write and graph inequalities in one variable.

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| **Main Idea** | **Notes** |
| **Exploration:** | 2.1 Exploration: Graphing and Writing Inequalities |
| **Vocabulary: Inequalities** | An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a statement that two quantities are not equal.  The quantities are compared using one of the following:  < \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  > \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  ≤ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  ≥ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    ≠ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is any value that makes the inequality true. |
| **Example 1: Solutions of Inequalities** | Describe the solutions of x – 6 ≥ 4 in words. Let’s test some values. What values of x will work?  x = -2  x = 5  x = 9  x = 10    x = 11  Solution: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Graphing Inequalities:** | We can use a graph to show all of the solutions to the last example.  Solution: All real numbers greater than or equal to 10.  x ≥ 10 |
| **Graphing Inequalities:** | Use an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ circle for < and >.  Use a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ circle for ≤ and ≥.  If it is less than, shade to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  If it is greater than, shade to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. |
| **Example 2: Writing and Graphinhg Inequalities** | Write each inequality in words. Then Graph each inequality.   1. m≥ ¾     b) t < 5(-1 + 3) |
| **Example 3: Writing Inequalities from Graphs**  **Example 3 (Continued): Writing Inequalities from Graphs** | Write the inequality shown by the graph. |
| **Example 4: Real World Application** | The members of a crew team can weigh no more than 165 pounds each.   1. Write an inequality for the acceptable weights of the team members. 2. Graph the solution. |
| **Exit Ticket:** | Explain the difference between x > 2 and x ≥ 2.  Use as many examples as possible.  ( Do this On a separate piece of paper. I will collect this for a grade) |
| **Classwork:** | Graphing Inequalities Worksheet (Double Sided) |
| **Homework:** | 2.1 Additional Practice Worksheet |