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| **President’s Approval Ratings- 6.NS.7** | |
| **Domain** | **The Number System** |
| **Cluster** | **Apply and extend previous understandings of numbers to the system of rational numbers.** |
| **Standard(s)** | **6.NS. 7** Understand ordering and absolute value of rational numbers.  **6.NS.7b** Write, interpret, and explain statements of order for rational numbers in real-world contexts. For example, write –3 degrees C > –7degrees C to express the fact that –3 degrees C is warmer than –7 degrees C.  **6.NS.7c** Understand the absolute value of a rational number as its distance from 0 on the number line; interpret absolute value as magnitude for a positive or negative quantity in a real-world situation. *For example, for an account balance of –30 dollars, write |–30| = 30 to describe the size of the debt in dollars*.  **6.NS.7d** Distinguish comparisons of absolute value from statements about order. *For example, recognize that an account balance less than –30 dollars represents a debt greater than 30 dollars*.  **6.NS.5** Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. |
| **Materials** | Activity sheet |
| **Task** | **President’s Approval Ratings**  The following table shows the changes in the President’s Approval Ratings   |  |  | | --- | --- | | **Month** | **Change in Value** | | January | Gained 9 points | | February | Lost 8 points | | March | Lost 7 points | | April | Gained 4 points | | May | Lost 3 points |   Part A: Plot the changes in ratings on a number line.  Part B:  List the changes in value from the greatest to least.  Part C: Using the concept of absolute value, list the values in order to show the most amount of change to the smallest amount of change.  Part D:  Explain why the lists in Parts B and C are different. |

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| **Rubric** | | |
| **Level I** | 1. **Level II** | **Level III** |
| Developing Proficiency   * Student uses inappropriate solution strategy and does not get the correct answer. | Not Yet Proficient   * There are one or two errors. | Proficient in Performance   * Accurately solves problem * Part 1: The number line has points plotted correctly. * Part 2: The order should by 9, 4, -3, -7, -8 * Part 3: The order should be which is 9, which is 8, which is 7, which is 4, then  which is 3. * Part 4: Part B asked for the order of the value with positive numbers or earnings being listed before negative values or losses. Part C, meanwhile, asked for the order of the greatest amount of change which is the order of the absolute value of the numbers. |

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| **Standards for Mathematical Practice** |
| **1. Makes sense and perseveres in solving problems.** |
| **2. Reasons abstractly and quantitatively.** |
| **3. Constructs viable arguments and critiques the reasoning of others.** |
| 4. Models with mathematics. |
| 5. Uses appropriate tools strategically. |
| **6. Attends to precision.** |
| 7. Looks for and makes use of structure. |
| 8. Looks for and expresses regularity in repeated reasoning. |

**President’s Approval Ratings**

The following table shows the changes in the President’s Approval Ratings

|  |  |
| --- | --- |
| **Month** | **Change in Value** |
| January | Gained 9 points |
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| April | Gained 4 points |
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Part A:  
Plot the changes in ratings on a number line.

Part B:

List the changes in value from the greatest to least.

Part C:  
Using the concept of absolute value, list the values in order to show the most amount of change to the smallest amount of change.

Part D:

Explain why the lists in Parts B and C are different.