|  |  |
| --- | --- |
| **Football Plays- 6.NS.6** | |
| **Domain** | **The Number System** |
| **Cluster** | **Apply and extend previous understandings of numbers to the system of rational numbers.** |
| **Standard(s)** | **6.NS. 6** Understand a rational number as a point on the number line. Extend number line diagrams and coordinate axes familiar from previous grades to represent points on the line and in the plane with negative number coordinates.  **6.NS.6c** Find and position integers and other rational numbers on a horizontal or vertical number line diagram; find and position pairs of integers and other rational numbers on a coordinate plane.  **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** | **Football Plays**  The Panthers use the following running plays during the first quarter of the football game.   |  |  | | --- | --- | | Play | Yards Gained | | Run behind the left tackle | 3 yards | | Toss sweep to the right | -7yards | | Toss sweep to the left | 2 yards | | Run behind the right guard | -3 yards | | Quarterback sneak | 7 yards |   Part 1:  Make a number line and plot all of the plays on the number line.  Part 2:  Which point(s) are farthest from 0?  Part 3:  Which pairs of points are the same distances from 0?  Part 4: If you were the football coach which two plays would you run more due to their success? Explain your reasoning. |

|  |  |  |
| --- | --- | --- |
| **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 points 7 and -7 are the farthest points from 0. * Part 3: The pairs 7 and -7 as well as the pairs 3 and -3 are the same distance from 0. * Part 4: The quarterback sneak and the run behind the left tackle have been the most successful. The explanation is clear and accurate. |

|  |
| --- |
| **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. |

**Football Plays**

The Panthers use the following running plays during the first quarter of the football game.

|  |  |
| --- | --- |
| Play | Yards Gained |
| Run behind the left tackle | 3 yards |
| Toss sweep to the right | -7yards |
| Toss sweep to the left | 2 yards |
| Run behind the right guard | -3 yards |
| Quarterback sneak | 7 yards |

Part A:

Make a number line and plot all of the plays on the number line.

Part B:

Which point(s) are farthest from 0?

Part C:

Which pairs of points are the same distances from 0?

Part D:  
If you were the football coach which two plays would you run more due to their success? Explain your reasoning.