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| **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.

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| --- | --- |
| 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.  |

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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 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.
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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. |

**Football Plays**

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

|  |  |
| --- | --- |
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| Run behind the left tackle | 3 yards |
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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.