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| **Splitting the Land- 6.NS.8** |
| **Domain** | **The Number System** |
| **Cluster** | **Apply and extend previous understandings of numbers to the system of rational numbers.** |
| **Standard(s)** | **6.NS.8** Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.**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** |  **Splitting the Land**Part 1:A real estate investor is selling a rectangular plot of land in two equal shares. The rectangular plot has coordinates (-2,4),(-2,-6) and 2 other points. The plot has a perimeter of 36 units. Draw the rectangle and label all four vertices on the activity sheet. *Coordinate grid on the activity sheet.* Part 2:Find the area of the plot of land.Part 3:Identify two ordered pairs that are not vertices that can be connected to correctly divide the land into two equal sections. Label these on the coordinate grid.Part 4:Find the area for each of the two regions. Write an explanation about how you found the 2 areas.  |

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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 rectangle is drawn correctly. The 2 missing vertices can either be at (-10,4) and (-10,-6) OR (6,4) and (6,-6).
* Part 2: The dimensions are 8x10, so the area is 80 square units.
* Part 3: The 2 vertices correctly split the rectangle into two equal section. If the two vertices in Part 1 were (-10,4) and (-10,-6), the land can be divided by connecting (-10,-1) and (-2,-1) OR (-6,4) and (-6,-6).
* If the two vertices in Part 1 were (6,4) and (6,-6), the land can be divided by connecting (6,-1) and (-2,-1) OR (2,4) and (2,-6).
* Part 4: The area is 40 square yards. 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. |

**Splitting the Land**

Part 1:

A real estate investor is selling a rectangular plot of land in two equal shares.

The rectangular plot has coordinates (-2,4),(-2,-6) and 2 other points. The plot has a perimeter of 36 units.

Draw the rectangle and label all four vertices on the activity sheet.



Part 2:

Find the area of the plot of land.

Part 3:

Identify two ordered pairs that are not vertices that can be connected to correctly divide the land into two equal sections. Label these on the coordinate grid.

Part 4:
Find the area for each of the two regions. Write an explanation about how you found the 2 areas.