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| **Reflections of Trapezoids- 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** | **Reflections of Trapezoids**  Part 1:  A trapezoid that has a right angle (right trapezoid) has 2 points at (7, 3) and (5, 5). One base has a length of 5 and the other base has a length of 3. What are the ordered pairs of the two other vertices of the trapezoid? Draw the shape on the coordinate grid.  *Coordinate grid on the activity sheet.*  Part 2:  The trapezoid is reflected across the x-axis. What are the ordered pairs of the vertices of the trapezoid? Draw the shape on the coordinate grid.  Part 3:  The original trapezoid is reflected across the y-axis. What are the ordered pairs of the vertices of the trapezoid? Draw the shape on the coordinate grid.  Part 4:  Explain how you determined the answers to Parts 2 and 3. |

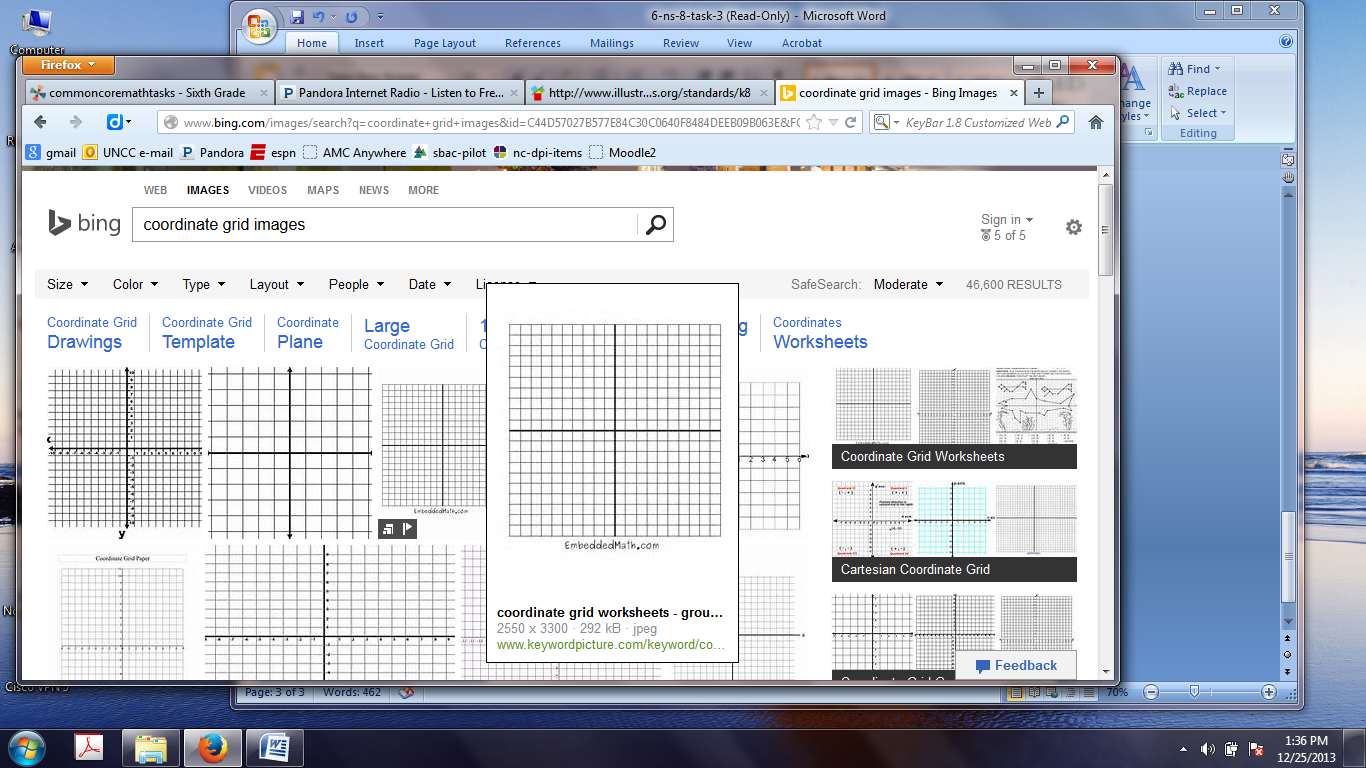
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| **Rubric** | | |
| **Level I** | 1. **Level II** | **Level III** |
| Developing Proficiency   * Student uses inappropriate solution strategy and does not get the correct answer. | Not Yet Proficient   * There are one or two errors. | Proficient in Performance   * Accurately solves problem * Part 1: Since the trapezoid has to have a right angle, the two other vertices have to have either the same X or Y coordinate. They could be located at (2, 3) and (2,5); or (10, 3) and (10, 5); or (7,0) and (5,0); or (7,8) and (5,8). * Part 2: The new ordered pairs are correct based on the answer in Part 1. * Part 3: The new ordered pairs are correct based on the answer in Part 1. * Part 4: 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. |

**Reflections of Trapezoids**

Part 1:

A trapezoid that has a right angle (right trapezoid) has 2 points at (7, 3) and (5, 5). One base has a length of 5 and the other base has a length of 3. What are the ordered pairs of the two other vertices of the trapezoid? Draw the shape on the coordinate grid.

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Part 2:

The trapezoid is reflected across the x-axis. What are the ordered pairs of the vertices of the trapezoid? Draw the shape on the coordinate grid.

Part 3:

The original trapezoid is reflected across the y-axis. What are the ordered pairs of the vertices of the trapezoid? Draw the shape on the coordinate grid.

Part 4:

Explain how you determined the answers to Parts 2 and 3.