Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Table #: \_\_\_\_\_\_ Period: \_\_\_\_\_\_ Date: \_\_\_\_\_\_

**2.2A NOTES – Translations**

*Objective: identify translations; translate figures in the coordinate plane. CC.SS.8.G.1/G.2/G.3*

*MP3 Construct Viable Argument HW: 2.2A pg 52 #7-20 all*

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| * A **transformation** changes a figure into another figure. The new figure is called the \_\_\_\_\_\_\_\_. * A **translation** is a transformation in which a figure \_\_\_\_\_\_\_\_\_\_\_\_. Every point of the figure moves the \_\_\_\_\_\_\_\_\_\_ distance and in the \_\_\_\_\_\_\_\_\_\_ direction. * PREIMAGE is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ figure in the transformation. * IMAGE is the \_\_\_\_\_\_\_\_\_\_\_ figure in the transformation.  |  |  | | --- | --- | | **A’ is read “A prime” Use prime symbols when naming an image.** | **A ↦ A’**  **B ↦ B’**  **C ↦ C’** | |
| **Summary of Translations**   |  |  |  | | --- | --- | --- | | **Operations** | **Translations** | **Notations** | | Add to X | Move to the RIGHT | (x, y) ↦ (x + #, y) | | Subtract from X | Move to the LEFT | (x, y) ↦ (x – #, y) | | Add to Y | Move UP | (x, y) ↦ (x, y + #) | | Subtract from Y | Move DOWN | (x, y) ↦ (x, y – #) | |

*DIRECTIONS: Tell whether the blue figure is a translation of the red figure. EXPLAIN.*

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| **B**  **R** | **B**  **R** | **B**  **R** |

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| Chapter 2, Section 2.2, EXAMPLE 1  *Translate Triangle ABC 2 units right and 5 units up. What are the coordinates of the image?*  *Identify the coordinate notation.* | ON YOUR OWN #4  *The vertices of a triangle are* A(-2, 1), B(2, 5), C(1, 2). *Translate Triangle ABC 4 units left and 2 units down. What are the coordinates of the image?*  *Identify the coordinate notation.* |

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| 1. translation: 2 units left and 2 units down  Notation Rule: (*x*, *y*) ↦ ( \_\_\_\_\_\_\_, \_\_\_\_\_\_\_)    **V:**  **R:**  **Y:**  **V’:**  **R’:**  **Y’:** | 2. translation: 1 unit right and 1 unit down  Notation Rule: (*x*, *y*) ↦ ( \_\_\_\_\_\_\_, \_\_\_\_\_\_\_)    **D:**  **H:**  **Y:**  **D’:**  **H’:**  **Y’:** |
| 3. translation: 6 units right and 5 units down  Notation Rule: (*x*, *y*) ↦ ( \_\_\_\_\_\_\_, \_\_\_\_\_\_\_)    **C:**  **J:**  **U:**  **C’:**  **J’:**  **U’:** | 4. translation: 3 units left  Notation Rule: (*x*, *y*) ↦ ( \_\_\_\_\_\_\_, \_\_\_\_\_\_\_)  **B:**  **R:**  **M:**  **Q:**  **B’:**  **R’:**  **M’:**  **Q’:** |
| 5. Create your own translation: Provide a rule. Graph the Pre-Image and Image.  ***Written Rule:*** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  ***Notation Rule:*** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Image result for graph | 6. Create your own translation: Provide a rule. Graph the Pre-Image and Image.  ***Written Rule:*** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  ***Notation Rule:*** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Image result for graph |

YouTube video with all transformations

<https://www.youtube.com/watch?v=VJTxv-tRKj0>