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

**2.2A Translations\_Classwork**

*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 worksheet*

|  |  |
| --- | --- |
| * A **transformation** changes a figure into another figure. The new figure is called the \_\_\_\_\_\_\_\_\_. * A **translation** is a transformation in which a figure \_\_\_\_\_\_\_\_\_\_\_\_ but does not \_\_\_\_\_\_\_\_\_\_\_\_\_. Every point of the figure moves the same distance and in the same direction. * PREIMAGE is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ figure in the transformation. * IMAGE is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ figure in the transformation. | |
| **Summary of Translations**   |  |  |  | | --- | --- | --- | | **Operations** | **Translations** | **Notations** | | Add to X | Move to the \_\_\_\_\_\_\_\_\_\_\_\_ | (x, y) ↦ (x + #, y) | | Subtract from X | Move to the \_\_\_\_\_\_\_\_\_\_\_\_ | (x, y) ↦ (x – #, y) | | Add to Y | Move \_\_\_\_\_\_\_\_\_\_\_\_ | (x, y) ↦ (x, y + #) | | Subtract from Y | Move \_\_\_\_\_\_\_\_\_\_\_\_ | (x, y) ↦ (x, y – #) | | |
| *WATCH BIG IDEAS MATH VIDEO: Chapter 2, Section 2.2, Example 1*  **EXAMPLE:** Translate Triangle ABC 3 units right and 3 units down. What are the coordintates of the image? A(-2, 1), B(2, 5), C(1, 2) | |
| 1. translation: 2 units left and 2 units down  (x, y) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    **V:**  **R:**  **Y:**  **V’:**  **R’:**  **Y’:** | 2. translation: 1 unit right and 1 unit down  (x, y) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    **D:**  **H:**  **Y:**  **D’:**  **H’:**  **Y’:** | |
| 3. translation: 6 units right and 5 units down  (x, y) 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_    **C:**  **J:**  **U:**  **C’:**  **J’:**  **U’:** | 4. translation: 3 units left  (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>