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>