

Translations Practice

NAME Key

Pre-image and corresponding images are given for particular translations. Describe the slide in words and then create the rule using mathematical symbols.

| | Describe in WORDS | RULE |
|----------------------------------|--|--------------|
| 1. $(3, 4) \rightarrow (4, 4)$ | Shift 1 unit \rightarrow | $(x+1, y)$ |
| 2. $(-2, 0) \rightarrow (-2, 4)$ | Shift 4 units \uparrow | $(x, y+4)$ |
| 3. $(3, 0) \rightarrow (2, 3)$ | Shift 1 unit \leftarrow AND 3 units \uparrow | $(x-1, y+3)$ |
| 4. $(2, -4) \rightarrow (5, -4)$ | Shift 3 units \rightarrow | $(x+3, y)$ |
| 5. $(3, 6) \rightarrow (5, 3)$ | Slide 2 units \rightarrow AND 3 units \downarrow | $(x+2, y-3)$ |
| 6. $(1, -2) \rightarrow (0, -4)$ | Slide 1 unit \leftarrow AND 2 units \downarrow | $(x-1, y-2)$ |
| 7. $(-1, -4) \rightarrow (0, 0)$ | Translate 1 unit \rightarrow AND 4 units \uparrow | $(x+1, y+4)$ |
| 8. $(5, 6) \rightarrow (3, 8)$ | Translate 2 units \leftarrow AND 2 units \uparrow | $(x-2, y+2)$ |
| 9. $(1, 2) \rightarrow (4, 2)$ | Translate 3 units \rightarrow | $(x+3, y)$ |
| 10. $(9, 4) \rightarrow (1, 5)$ | Shift 8 units \leftarrow AND 1 unit \uparrow | $(x-8, y+1)$ |

A pre-image point is given and a rule is given for a particular translation. Identify the image point.

11. $(5, 2)$ under a translation that moves the figure 3 units left and 2 units up.

$$\begin{aligned} (5, 2) &\rightarrow (x + -3, y + 2) && (2, 4) \\ &(5 + -3, 2 + 2) \\ &(2, 4) \end{aligned}$$

12. $(5, 2)$ under a translation that moves the figure 5 units right and 2 units down.

$$\begin{aligned} (5, 2) &\rightarrow (x + 5, y + -2) && (10, 0) \\ &(5 + 5, 2 + -2) \\ &(10, 0) \end{aligned}$$

13. $(5, 2)$ under the rule $(x + 6, y + -1)$.

$$\begin{aligned} (5 + 6, 2 + -1) &&& (11, 1) \\ (11, 1) \end{aligned}$$

14. $(9, -2)$ under the rule: $(x, y + 4)$.

$$\begin{aligned} (9, -2 + 4) &&& (9, 2) \\ (9, 2) \end{aligned}$$

15. $(-3, -6)$ under the rule: $(x + -2, y)$

$$\begin{aligned} (-3 + -2, -6) &&& (-5, -6) \\ (-5, -6) \end{aligned}$$

Make your own translation!!!

Make up a pre-image point and an image point that could be a translation. Create the rule for this translation.

Pre-Image

$(3, 4)$

Image

$(-1, 6)$

Rule

$(,)$
 $(x + -4, y + 2)$