**TRANSLATIONS**

A **transformation** is a change in the \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a figure.

A **translation** is a transformation which \_\_\_\_\_\_\_\_\_\_\_\_ each point of a figure the same \_\_\_\_\_\_\_\_\_\_\_\_ and in the same \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

The resulting figure after a transformation is called the \_\_\_\_\_\_\_\_\_\_\_ of the original figure.

**EXAMPLE 1:**

Δ*ABC* is translated 1 unit right and 4 units up. Draw the image Δ*A’B’C’*.



What are the coordinates of:

*A* (1, -3) 🡪 *A’* \_\_\_\_\_\_\_\_\_

*B* (3, 0) 🡪 *B’* \_\_\_\_\_\_\_\_\_

*C*  (4, -2) 🡪 *C’*\_\_\_\_\_\_\_\_\_\_

From EXAMPLE 1, *ΔABC* 🡪 *ΔA’B’C’*

As a general rule this translation could be written as (*x, y*) 🡪 (*x* + \_\_\_, *y* + \_\_\_ ).

REFLECTIOS

A **reflection** is a transformation which \_\_\_\_\_\_\_\_\_\_\_\_ the figure over a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

This line is called the .



**Example 1:**

*ΔABC* is being reflected over the *x*-axis.

Draw and label the image *ΔA’B’C*’.

We can use an arrow to describe this reflection.

Δ*ABC* 🡪 Δ*A’B’C’*

What are the coordinates of:

*A* \_\_\_\_\_\_\_\_ 🡪 *A’* \_\_\_\_\_\_\_\_\_

*B* \_\_\_\_\_\_\_\_ 🡪 *B’* \_\_\_\_\_\_\_\_\_

*C* \_\_\_\_\_\_\_\_ 🡪 *C’*\_\_\_\_\_\_\_\_\_\_

Write a general rule for an *x-*axis reflection:

(*x, y*) 🡪 ( \_\_\_\_\_\_\_\_ , \_\_\_\_\_\_\_ ).