Mathematics

Combining Translations and Reflections Worksheet

Mrs Buckmire

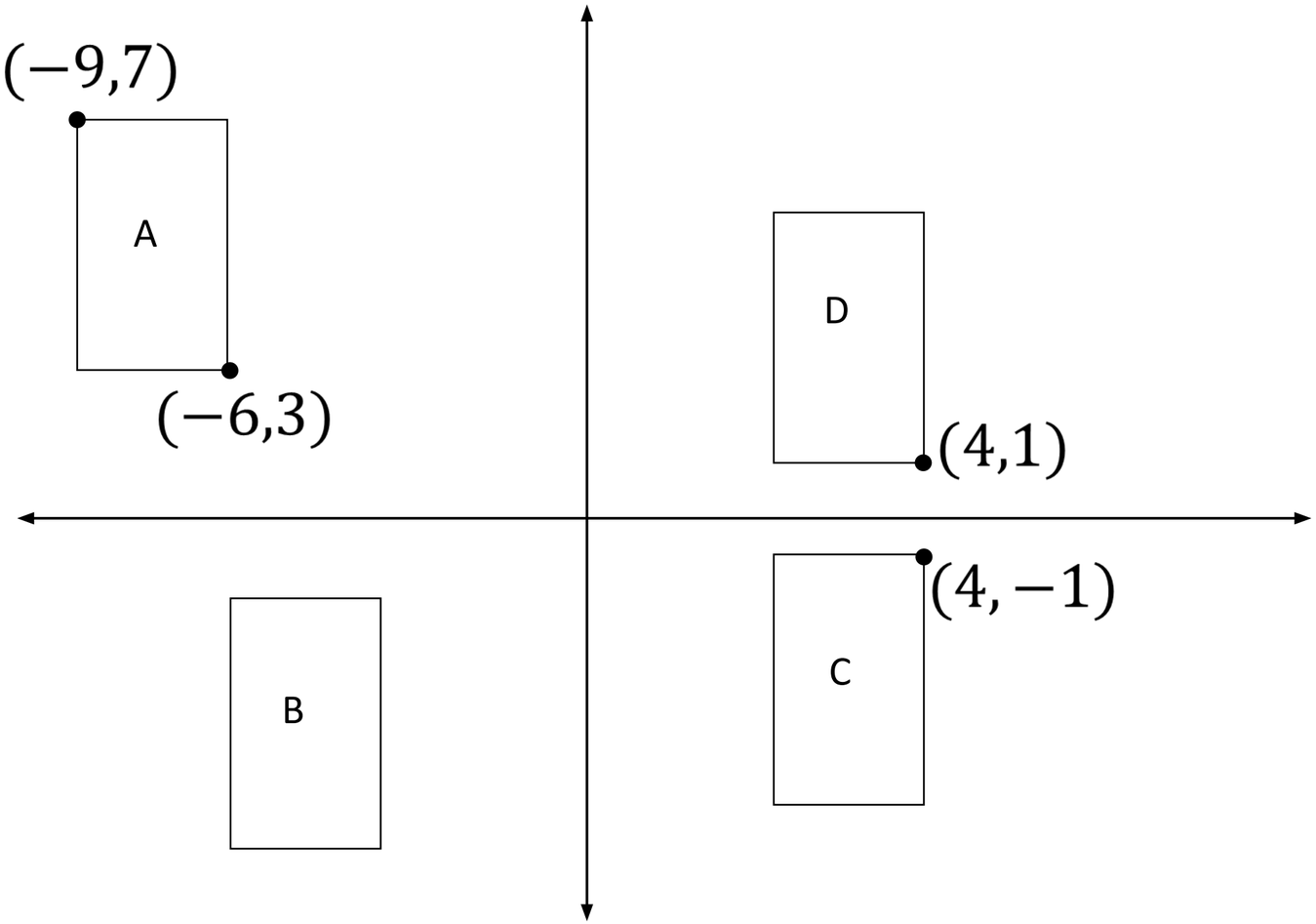
Try this

- Describe the translations from:

A to D | D to C | C to A

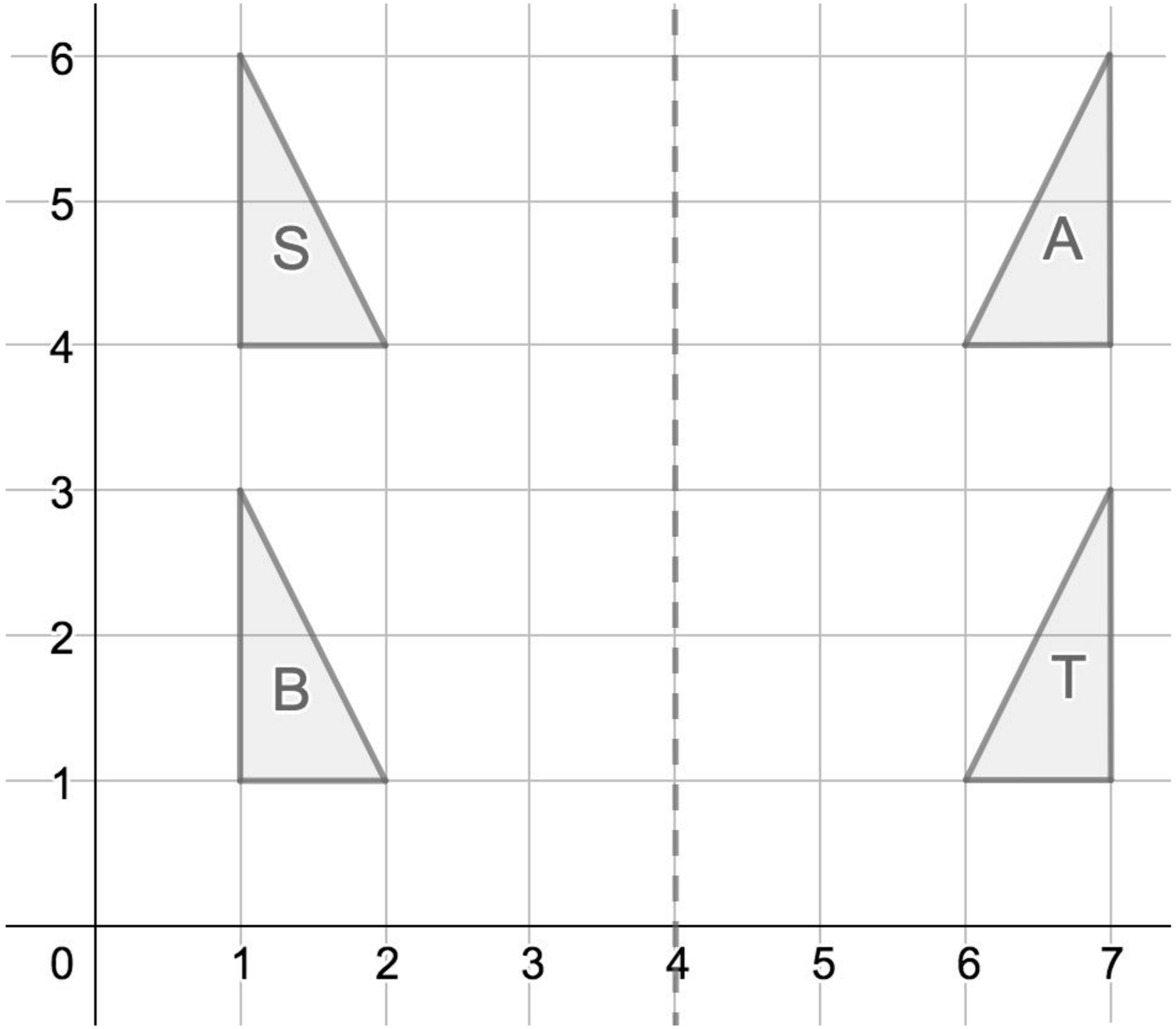
- Find the missing co-ordinates of each rectangle.

A to B is a translation by $\begin{pmatrix} 4 \\ -9 \end{pmatrix}$



Connect

Describe the transformation, or combination of transformations, between each pair of triangles:

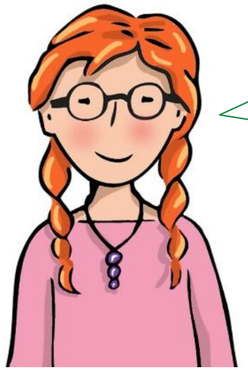


Connect -> Independent task

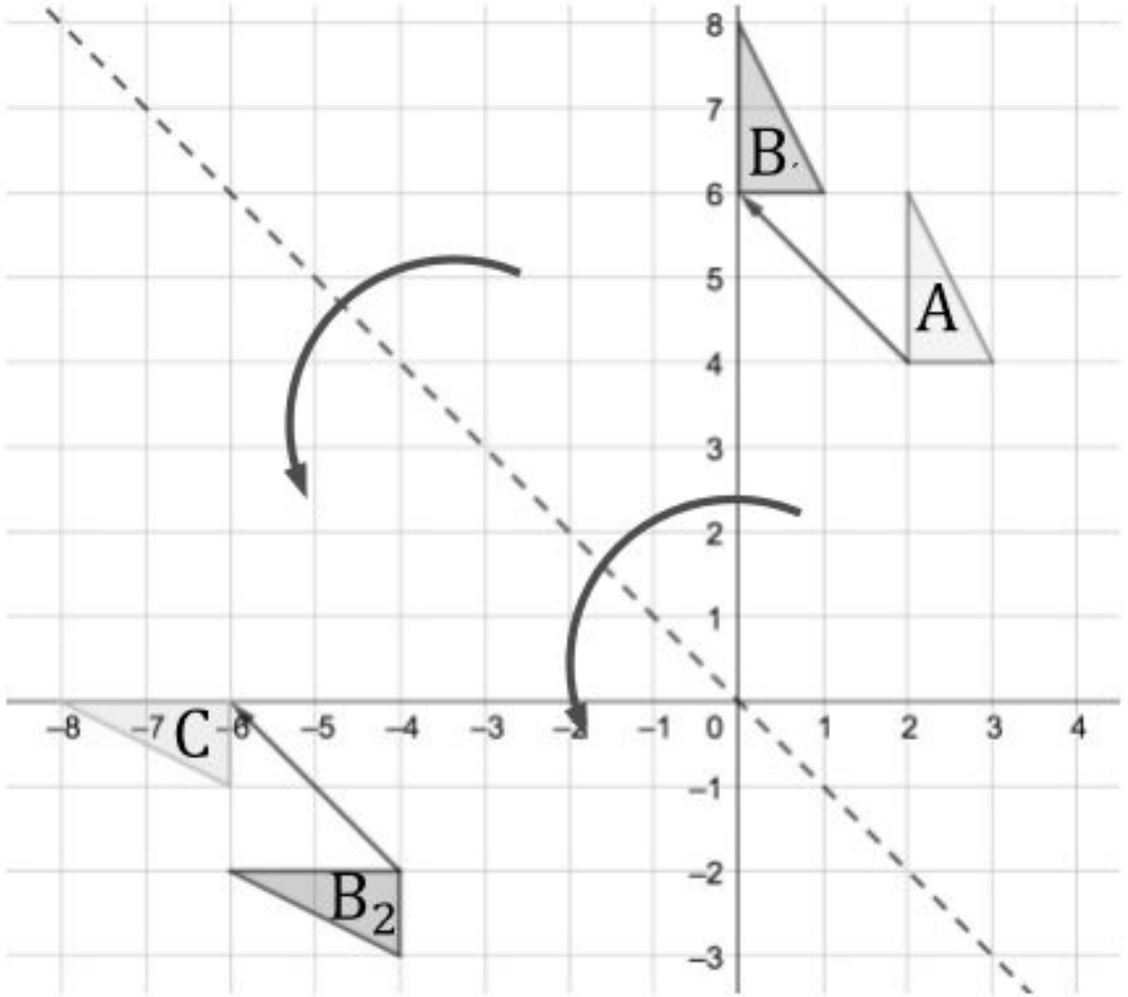
A student is exploring the effect of combining a translation and a reflection.

Reflect in the dotted line

Translate by the vector $\begin{pmatrix} -2 \\ 2 \end{pmatrix}$



The order in which I reflect and translate doesn't matter in this case.



Independent Task

Using the line of symmetry shown, compare the effect of...

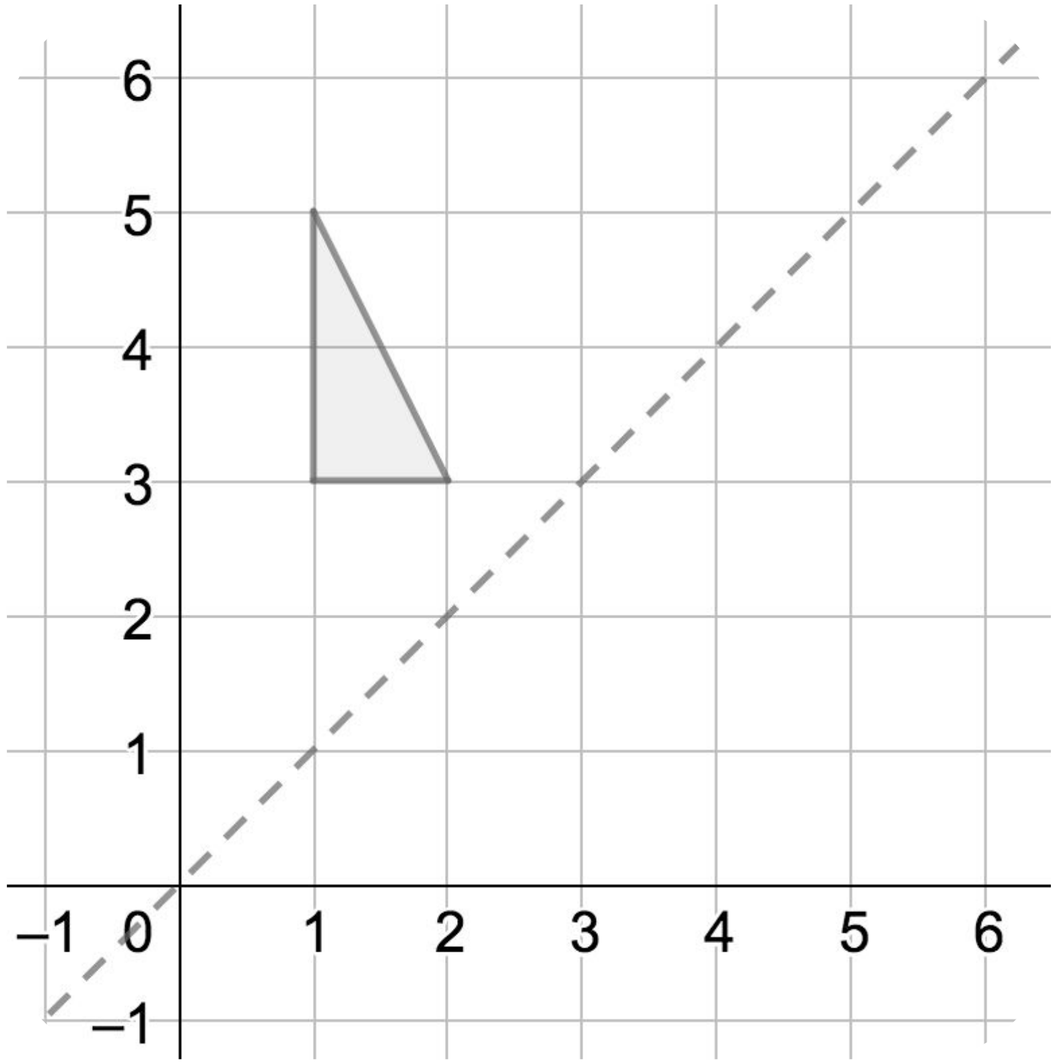
- reflecting then translating
- translating then reflecting

... for each of the vectors:

$\begin{pmatrix}1\\0\end{pmatrix}$

$\begin{pmatrix}1\\2\end{pmatrix}$

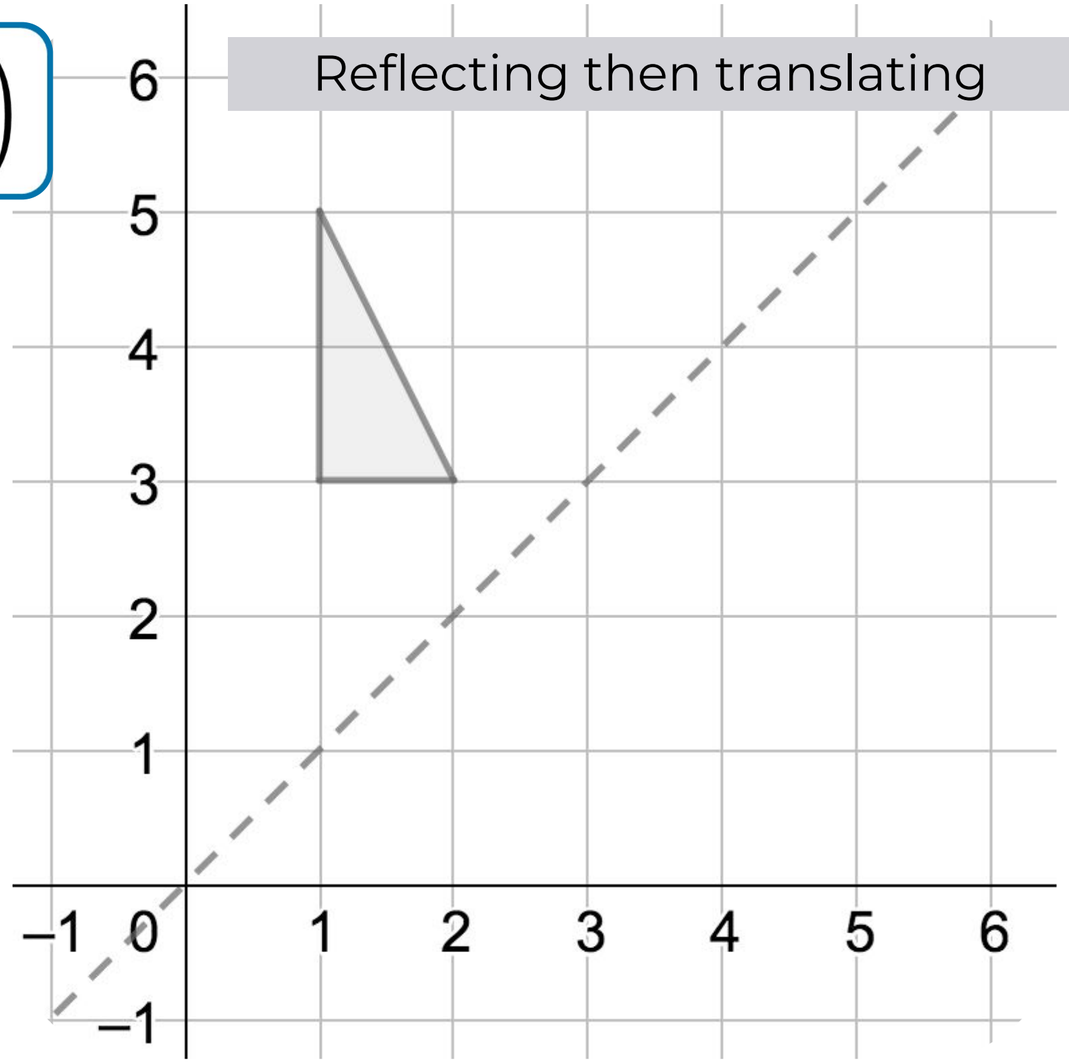
$\begin{pmatrix}1\\1\end{pmatrix}$



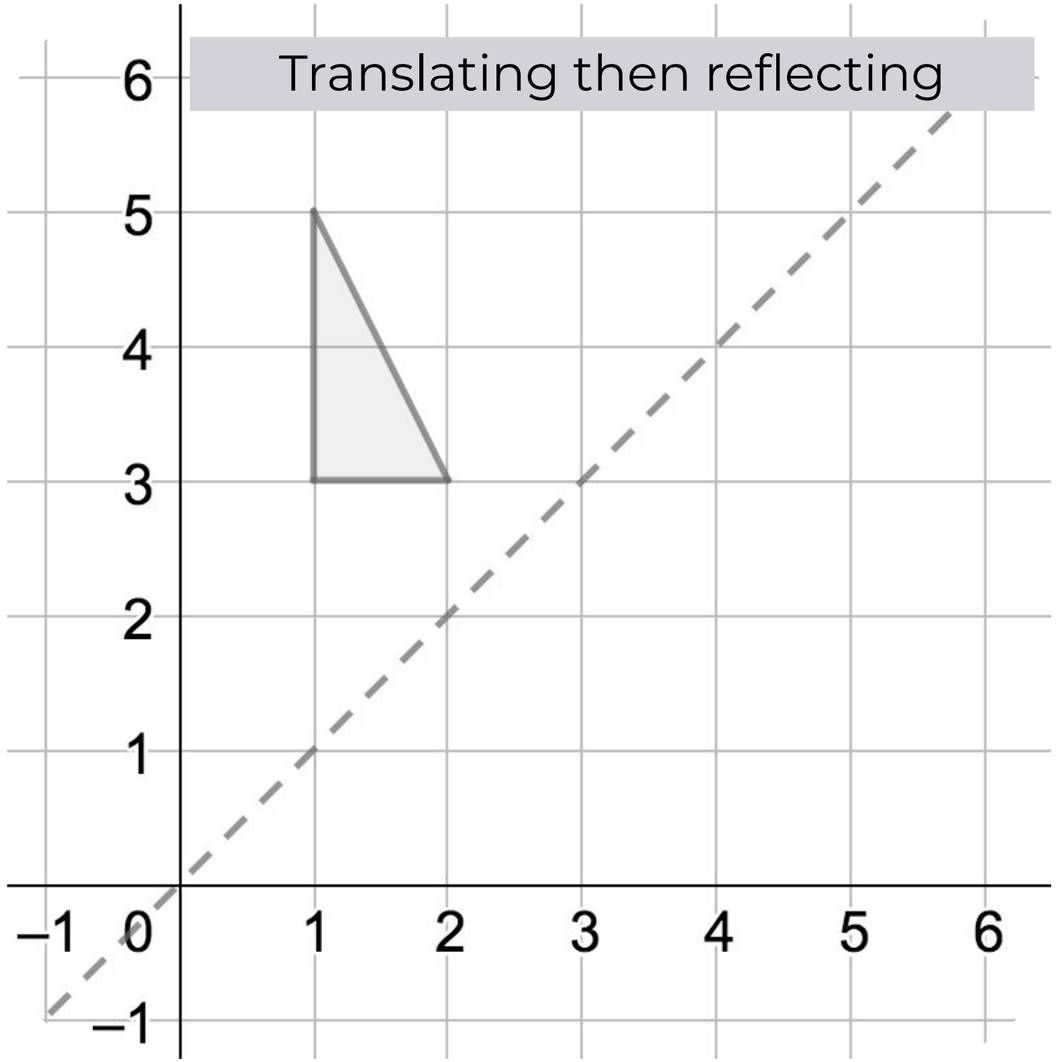
Independent Task

$\begin{pmatrix} 1 \\ 0 \end{pmatrix}$

Reflecting then translating



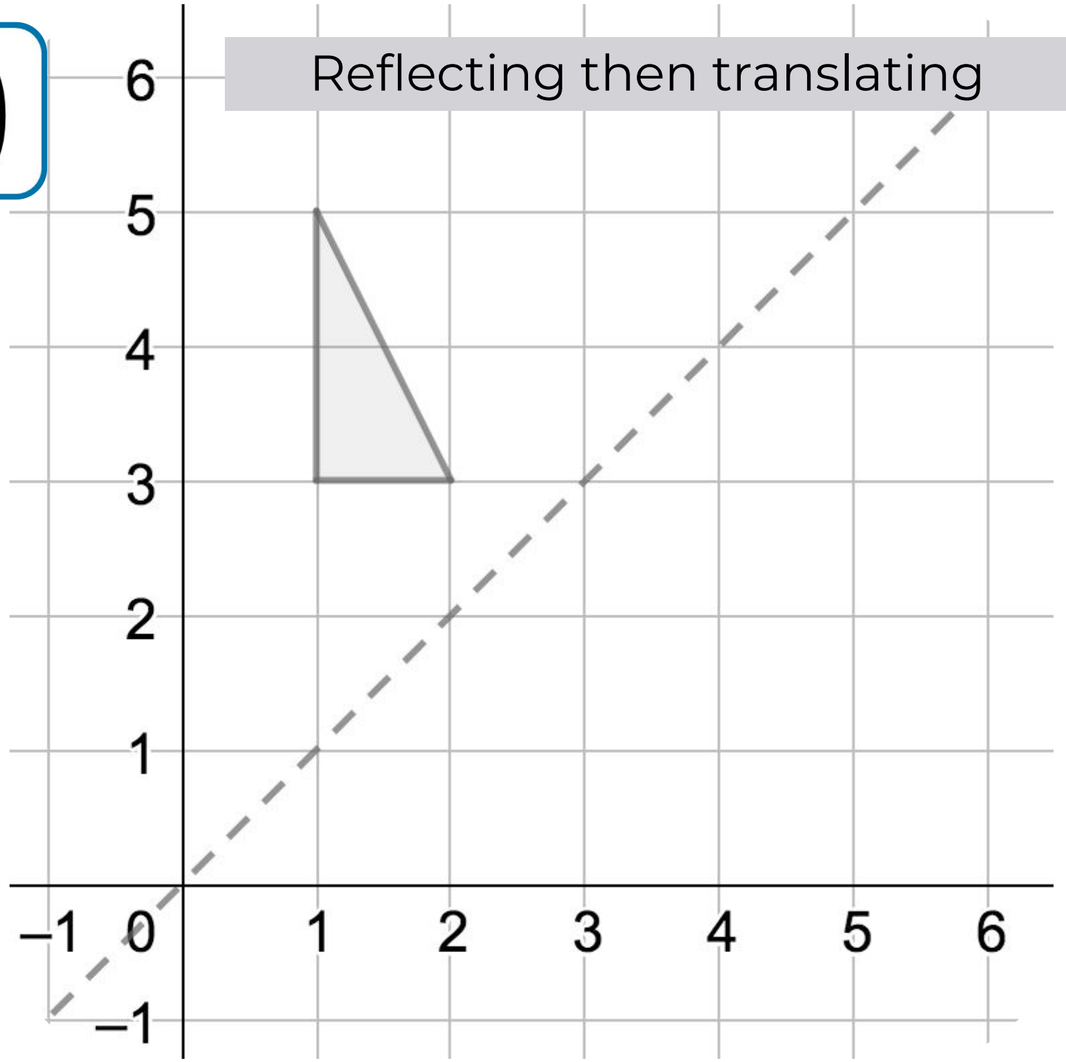
Translating then reflecting



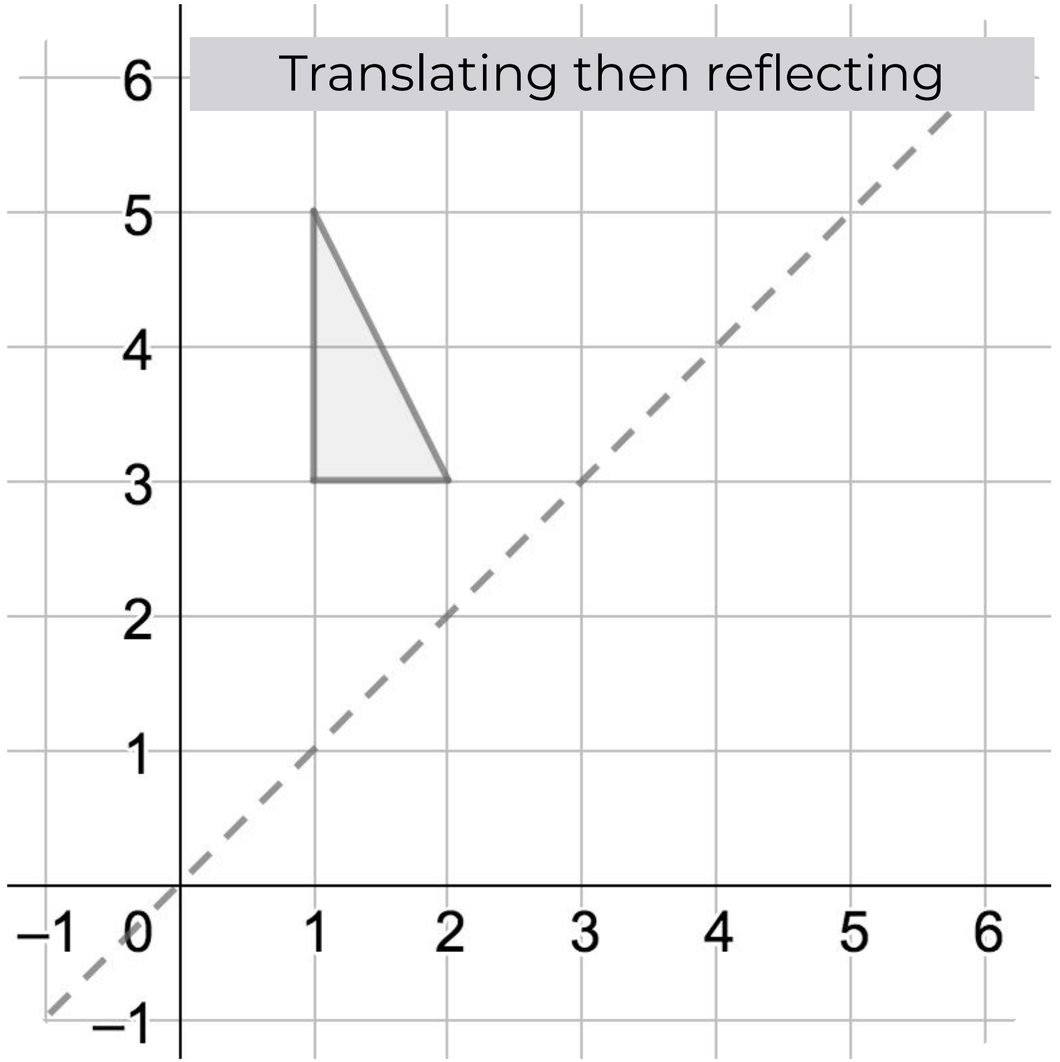
Independent Task

$\begin{pmatrix} 1 \\ 1 \end{pmatrix}$

Reflecting then translating



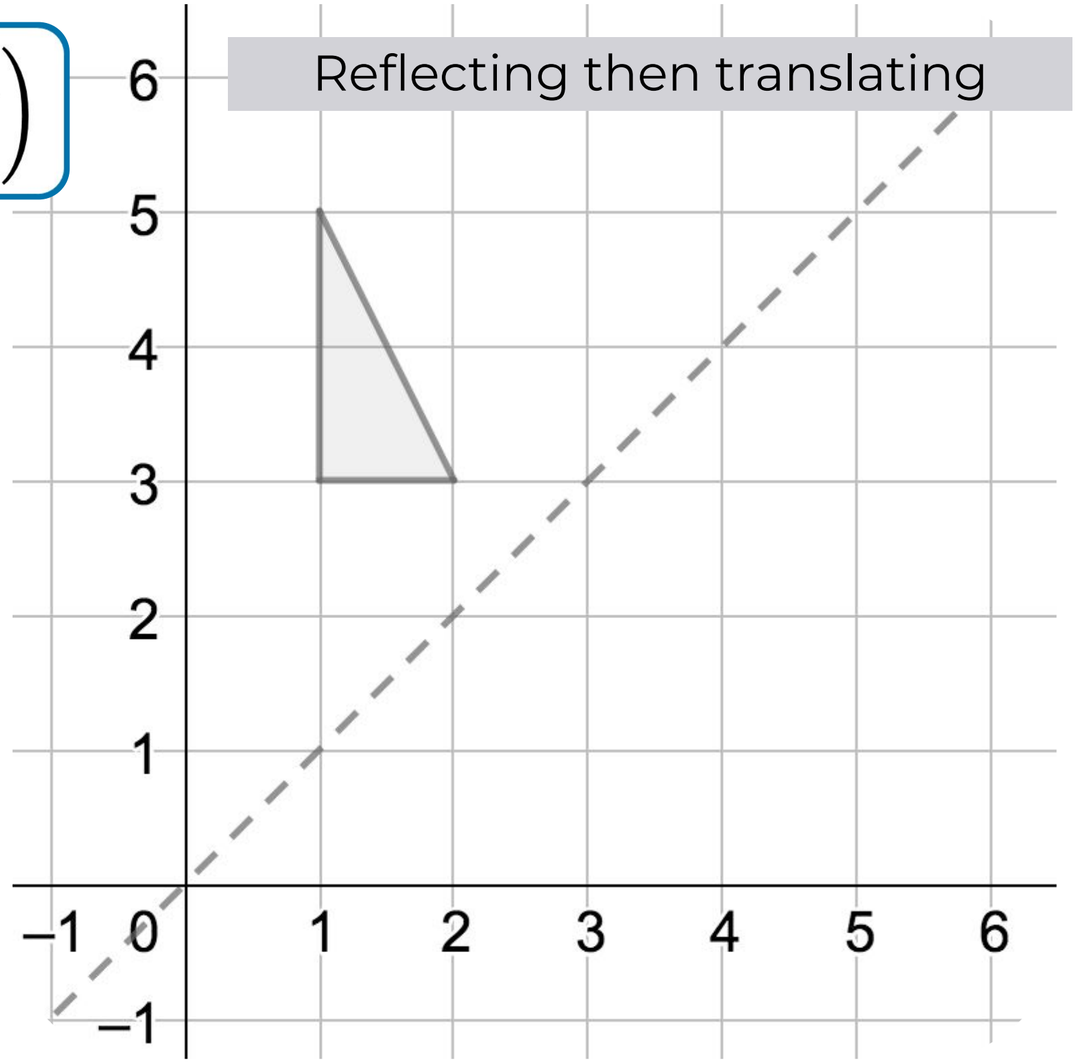
Translating then reflecting



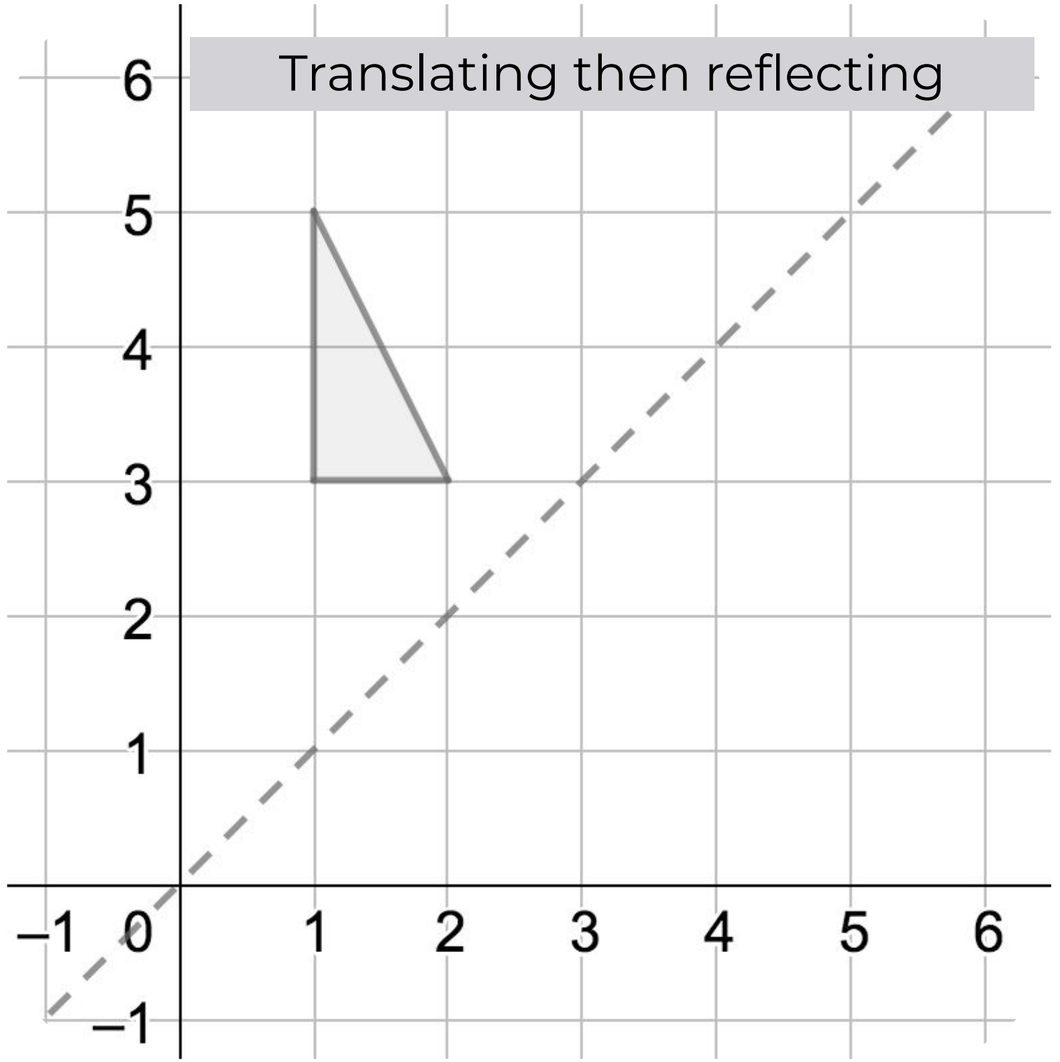
Independent Task

$\begin{pmatrix} 1 \\ 2 \end{pmatrix}$

Reflecting then translating



Translating then reflecting



Explore

A shape undergoes a translation and a reflection.

When do the following combinations have the **same effect**?

The translation then the reflection

The reflection then the translation