TODAY'S AGENDA: November 27th+

- Work on Khan Academy Mission:
- Complete Mission Foundation Skills
- Today's Objective: Whole-Group Lessons:
- Transformations - Introduction

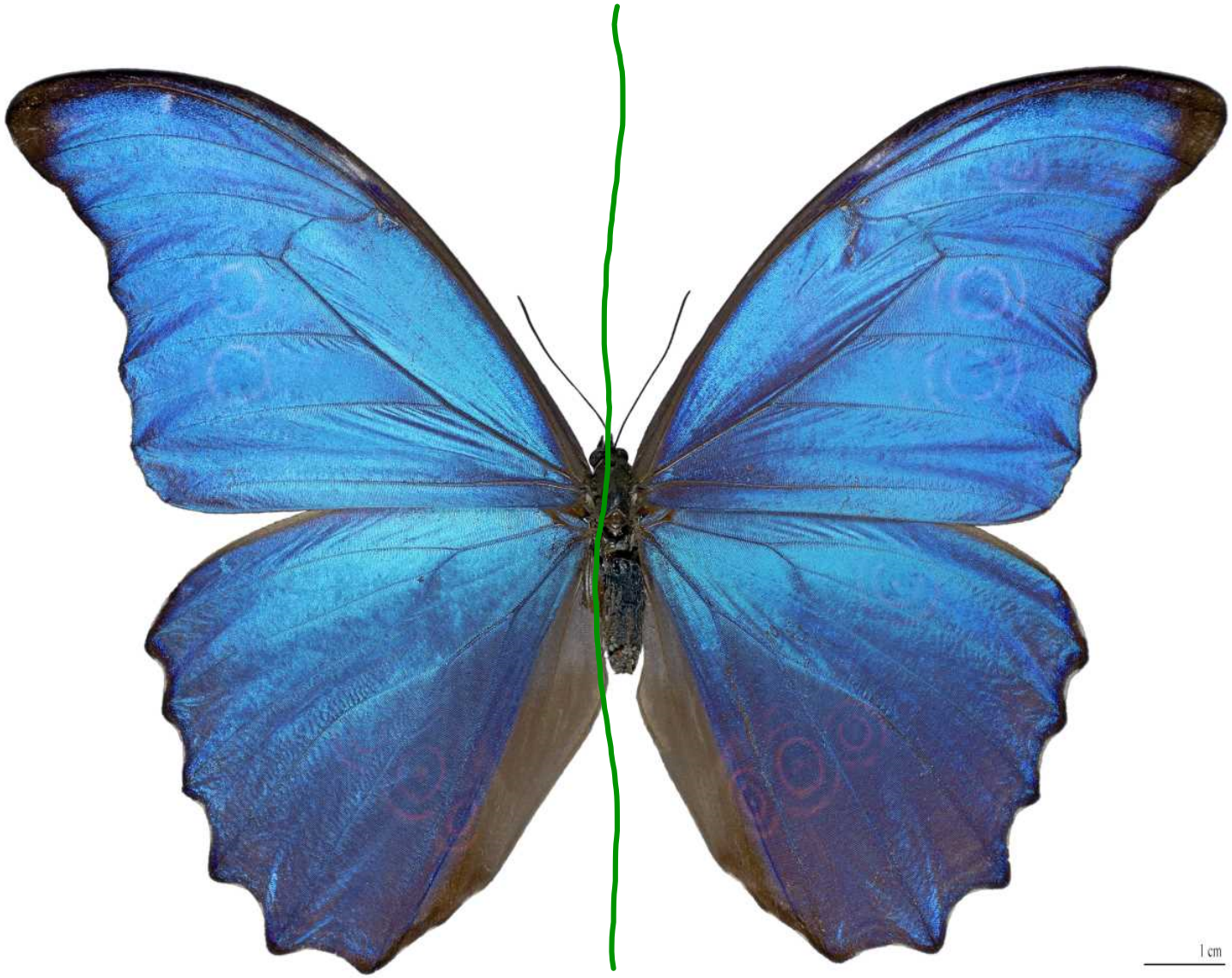
- Standards:
- CCSS.MATH.CONTENT.HSG.CO.4:
- Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.

- Continue With Your Mission Assignments

Types of Transformations

Rigid Transformations

1. Translation - move
2. Rotation – Spin + : counter-clockwise − : clockwise
3. Reflection – flip (mirror image, butterfly wing)
4. Dilation – Resize (bigger, smaller)
   ↳ Not Rigid


1 cm

Translations - Moving

prime

Point Q' is the image of $Q(-5, 1)$ under a translation by 6 units to the right and 2 units down.

Start

What are the coordinates of Q'?

(1 , −1)

$-5 + 6 = 1$ $\quad$ $1 - 2 = -1$

prime is the image

Translations - Moving

Point P' is the image of $P(-2, -2)$ under a translation by 1 unit to the left and 3 units down.

What are the coordinates of P'?

$(-3, -5)$

$-2 - 1 = -3$

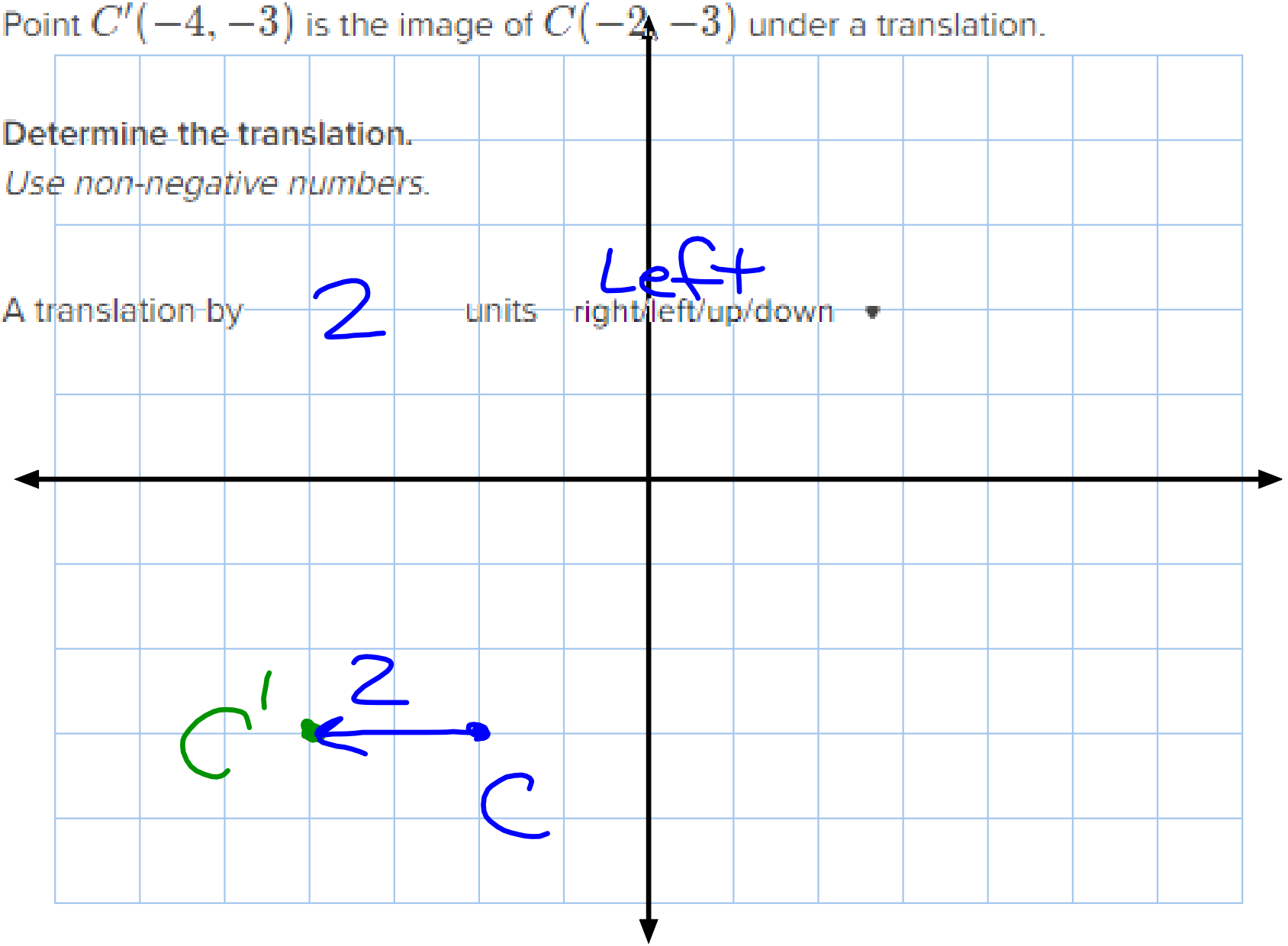
$-2 - 3 = -5$

Point $C'(-4, -3)$ is the image of $C(-2, -3)$ under a translation.

Determine the translation.

Use non-negative numbers.

A translation by 2 units left/right/left/up/down

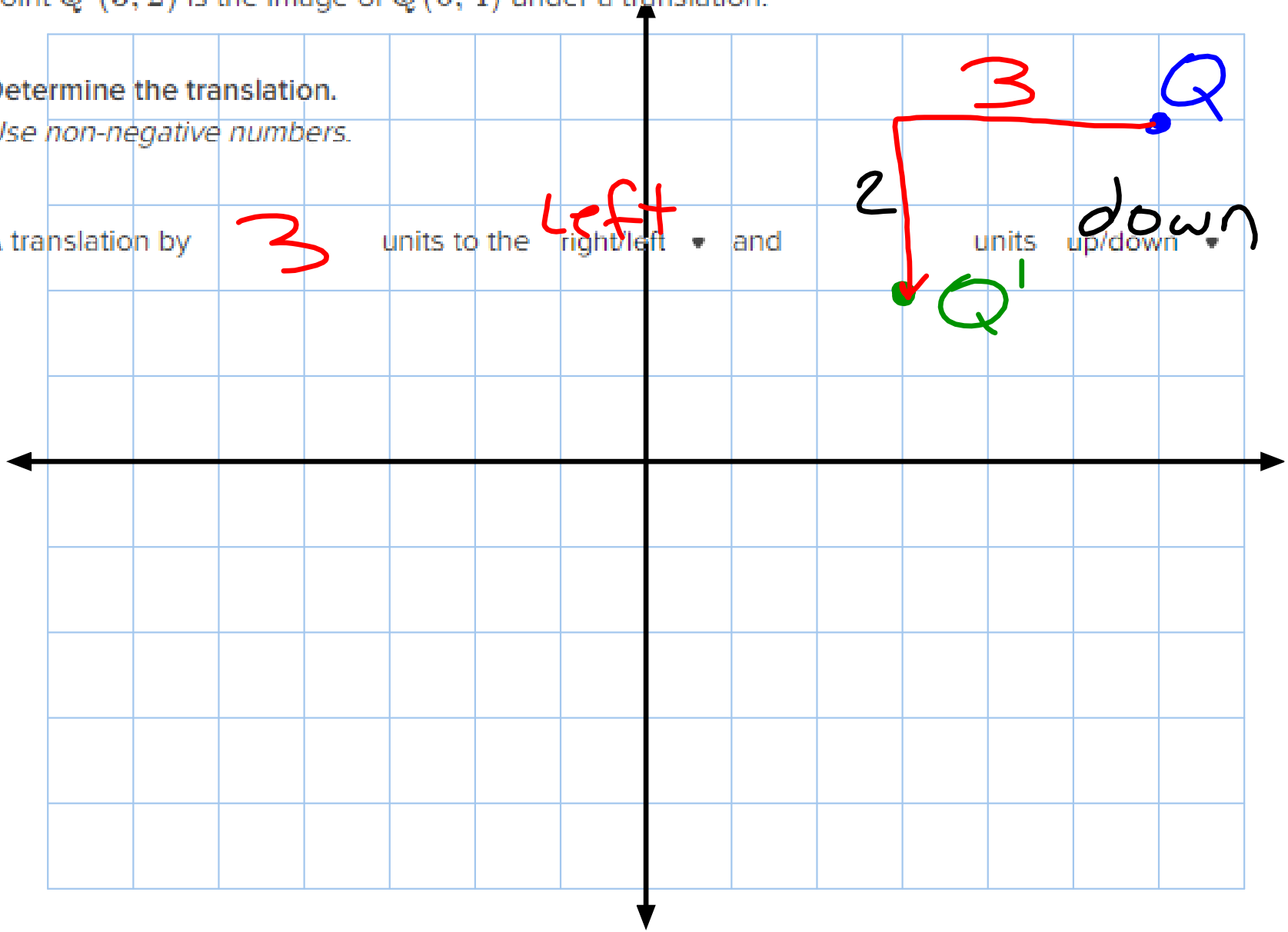


Point $Q'(3, 2)$ is the image of $Q(6, 4)$ under a translation.

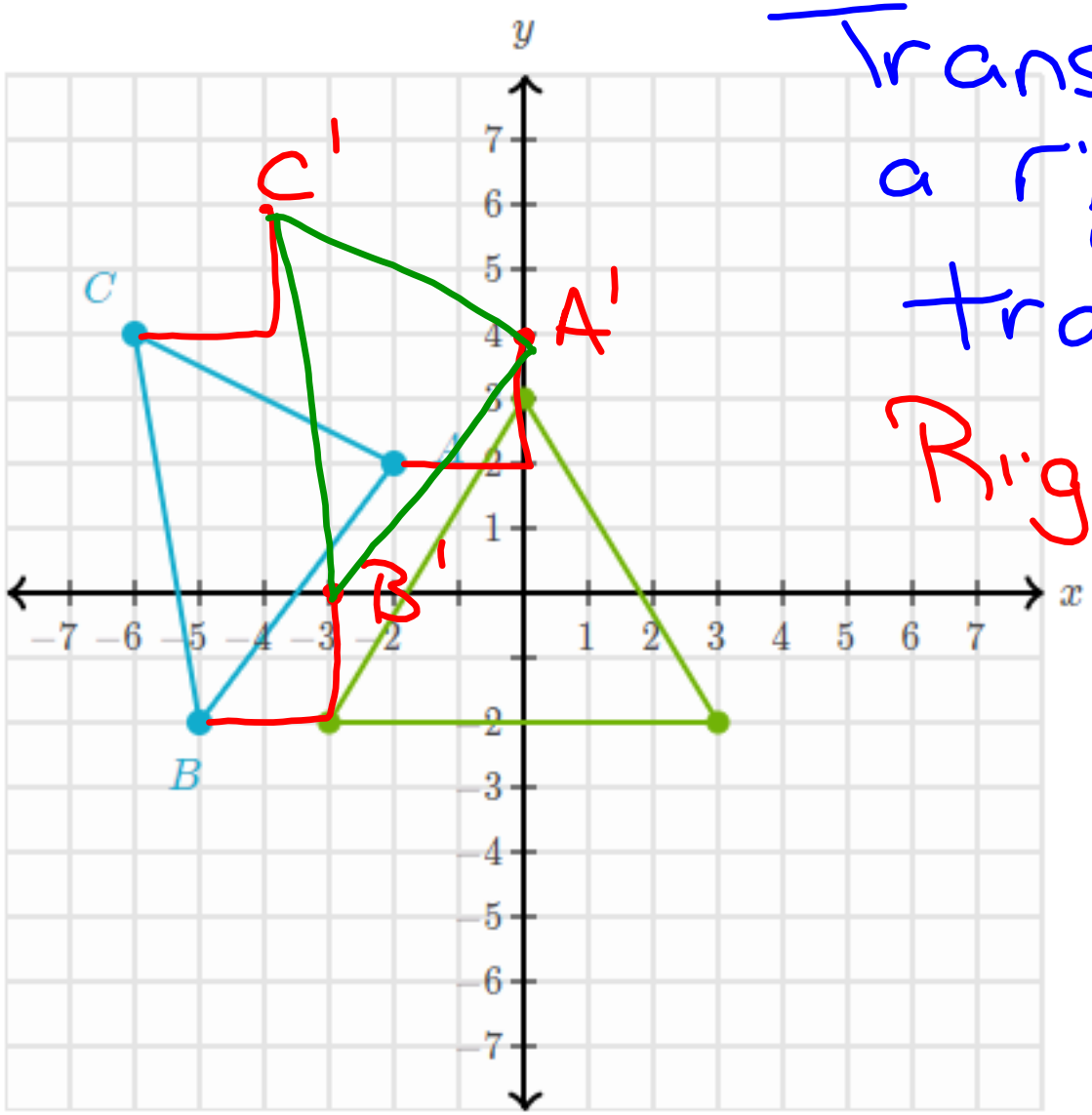
Determine the translation.

Use non-negative numbers.

A translation by 3 units to the right/left ▾ and units up/down ▾



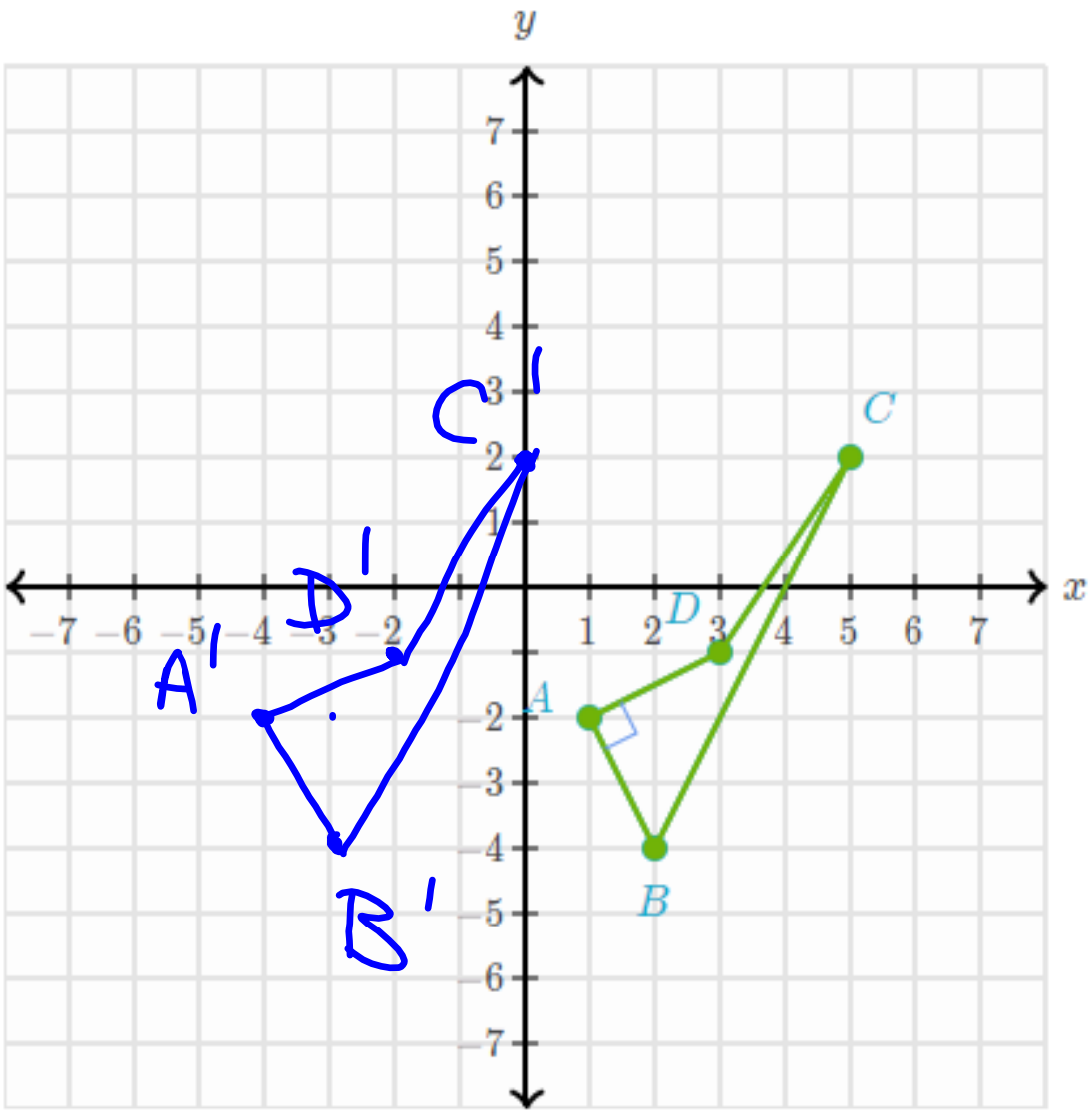
Draw the image of $\triangle ABC$ under the translation $(x, y) \to (x + 2, y + 2)$.



Translations are a rigid transformation.

Rigid - size + shape stay the same

Draw the image of quadrilateral $ABCD$ under the translation $(x, y) \to (x - 5, y)$.



Draw the image of $\triangle ABC$ under the translation $(x, y) \to (x - 6, y - 7)$.

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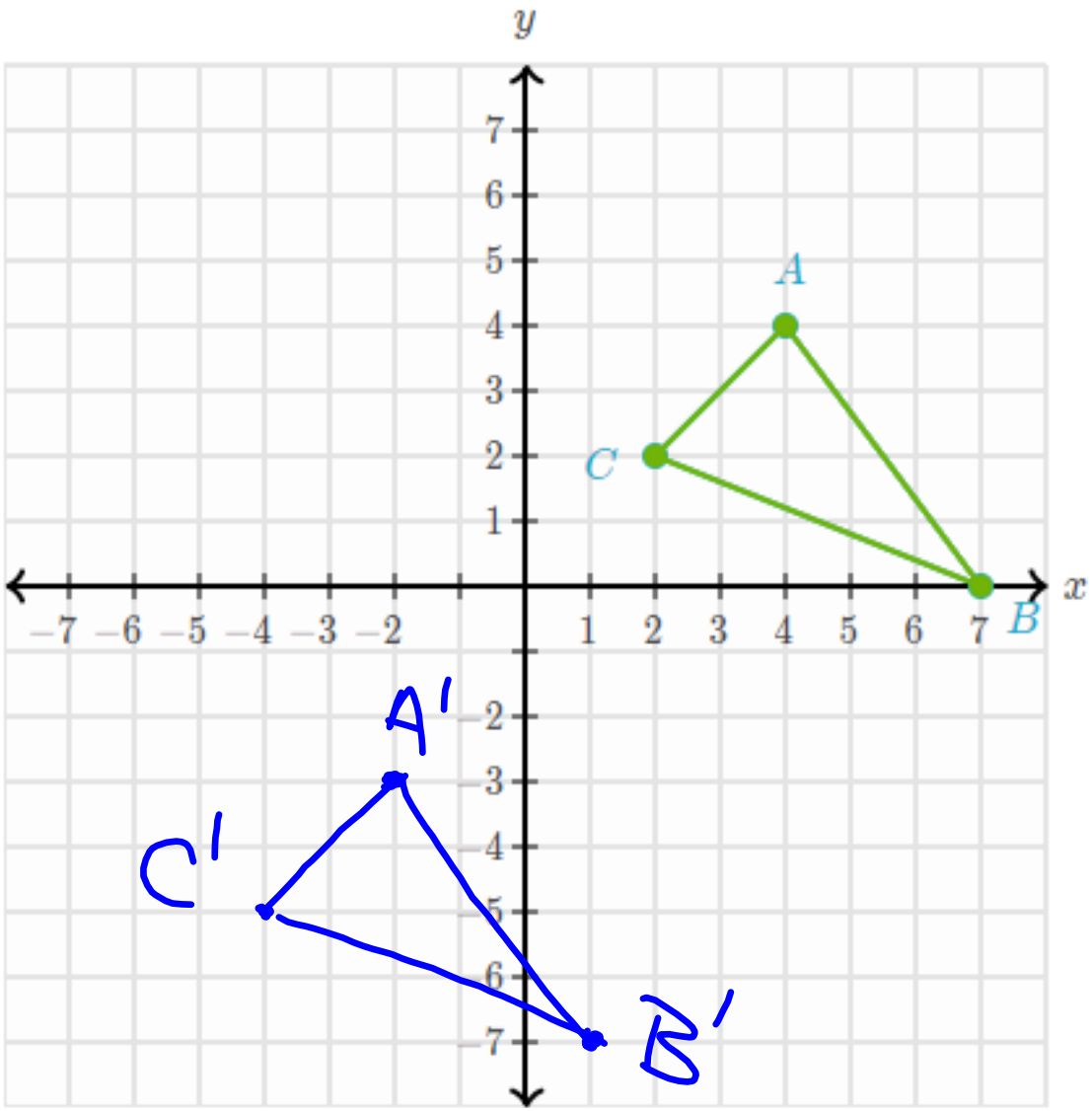

Skills You Should Be Working on:

1. Identify Transformations
2. Translate Points
3. Determine Translations
4. Translate Shapes