

## Tracy Triangle's Transformative Travels

Tracy Triangle needs your assistance! Tracy knows that traveling is a great way to experience new places and grow. She has chosen four different transformations as part of her trip. However, she is having trouble planning where to go. After all, there is no way she could see all the sights on the coordinate graph! Help Tracy by choosing the order in which she should experience the four transformations on her trip.

### Part 1: Going Away

Tracy needs a detailed map to understand where she is going and how she is getting there. Describe each piece of her trip for her. Make sure that your descriptions include:

- A description of each transformation step in words (for example, *rotated  $90^\circ$*  or *translated down two units*).
- A prediction of the coordinates of each vertex of her triangle after each transformation using integer expressions.
- A graph showing her location after each transformation.

### Part 2: Returning Home

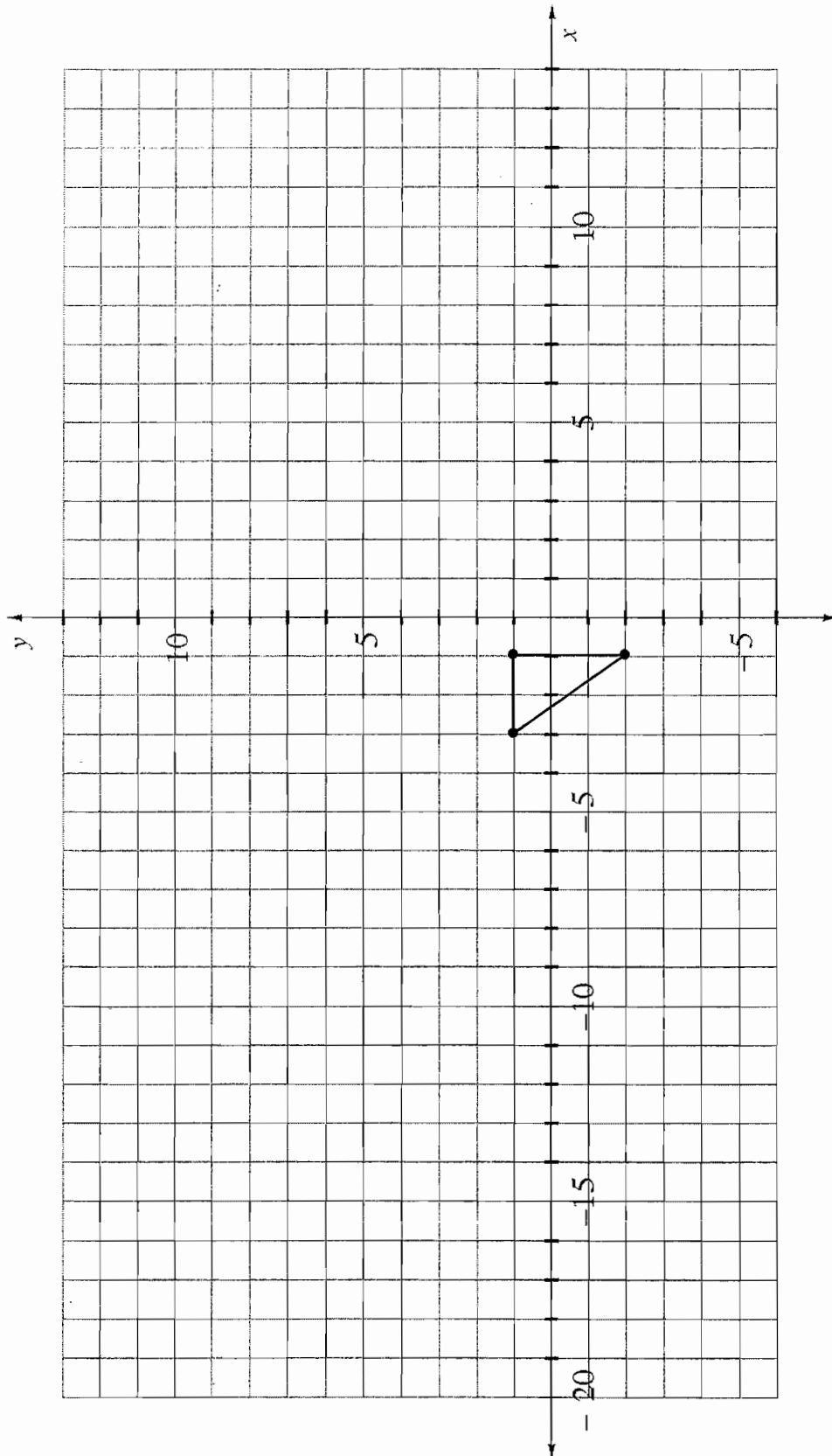
Tracy needs your help again! While Tracy Triangle loves the adventure of traveling, she always enjoys returning home and needs you to help her retrace her steps.

Starting where Tracy Triangle ended, describe in words and symbols how she would undo her transformations. You can undo each transformation step separately, or you can create a new path back to the starting place. Tracy has requested that you provide her with:

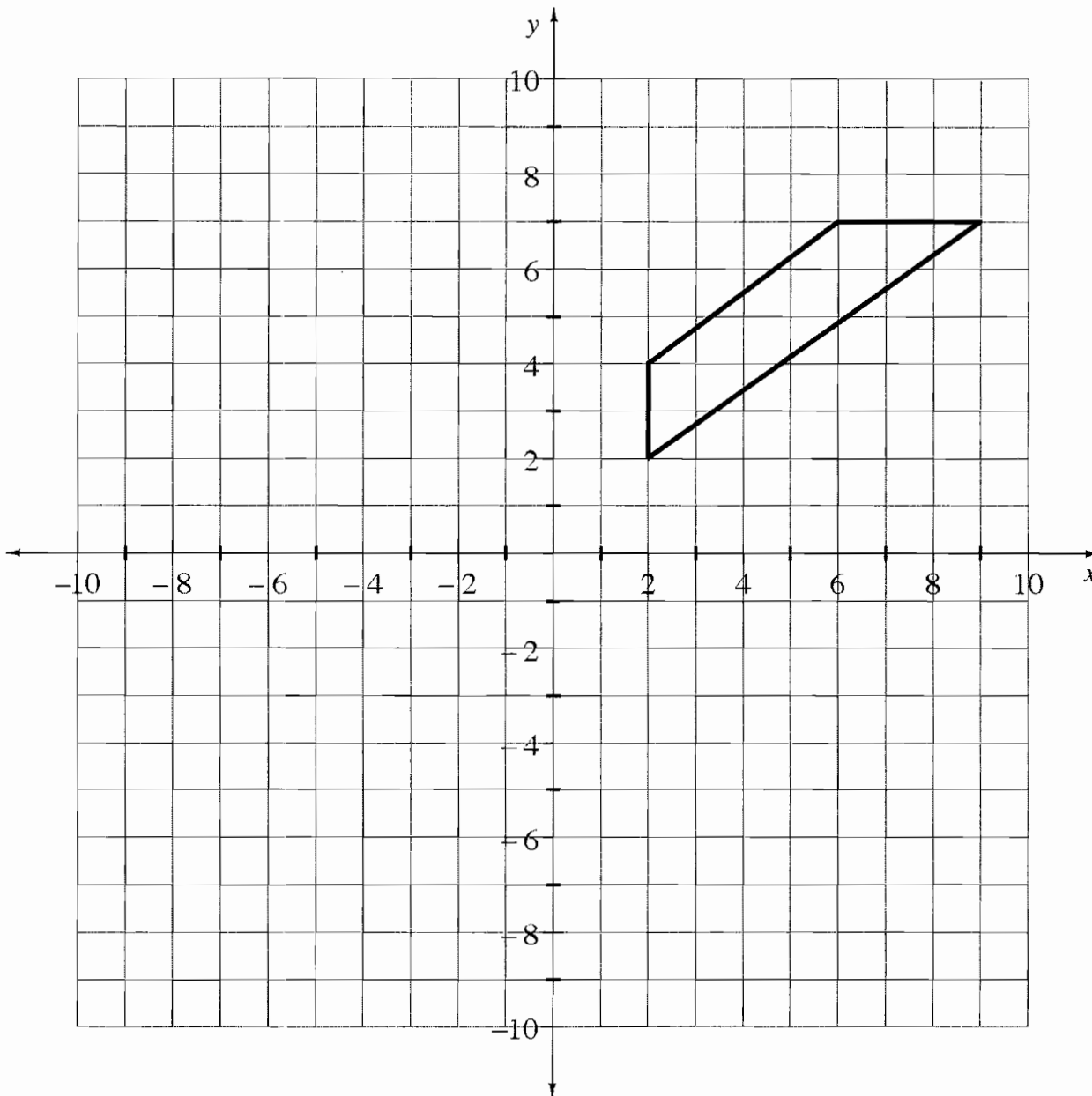
- A description of each transformation step in words (for example, *rotated  $90^\circ$*  or *translated down two units*).
- A prediction of the coordinates of each vertex of her triangle after each transformation using integer expressions.
- A graph showing her location after each transformation.

<p><b>Tracy Triangle's Transformative Travels</b></p> <p>Add 5 to each <math>x</math>-coordinate.</p>	<p><b>Tracy Triangle's Transformative Travels</b></p> <p>Multiply each <math>y</math>-coordinate by <math>-1</math>.</p>
<p><b>Tracy Triangle's Transformative Travels</b></p> <p>Multiply each coordinate by 2.</p>	<p><b>Tracy Triangle's Transformative Travels</b></p> <p>Add <math>-8</math> and then 3 to each <math>x</math>-coordinate. Add 9 and <math>-4</math> to each <math>y</math>-coordinate.</p>

Tracy Triangle's Transformation Travels



Show the following transformations of the shape given at left. Then explain each transformation and how it affects a shape in the boxes below.



Translation (Slide):

Reflection (Flip):

Rotation (Turn):

Dilation (Grow/Shrink):