Compositions

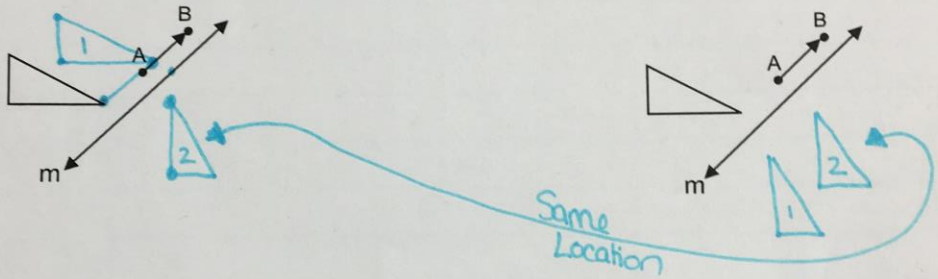
Unit 2
Day 9

A glide reflection is the composition of a translation and a reflection where the translation is parallel to the reflection line.

Discovery Activity: Use patty paper to complete the transformations below:

1. Translate A→B, then reflect over line m

2. Reflect over line m, then translate A→B.

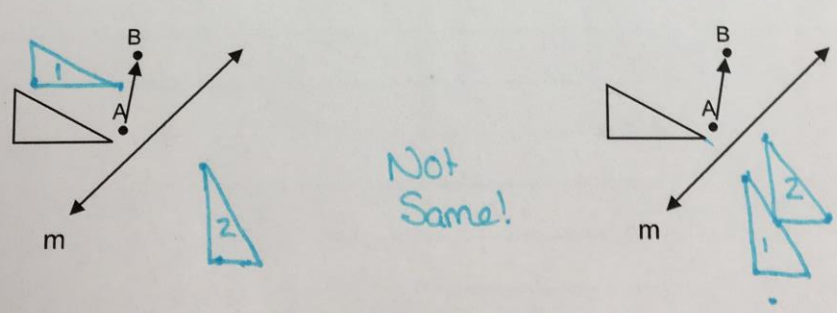


3. Does it matter which transformation is done first in a glide reflection? No.

Use patty paper to complete the transformations below:

4. Translate A→B, then reflect over line m

5. Reflect over line m, then translate A→B.



6. Is this a glide reflection? Why or why not? No... Reflection Line ∦ Translation Vector are NOT para

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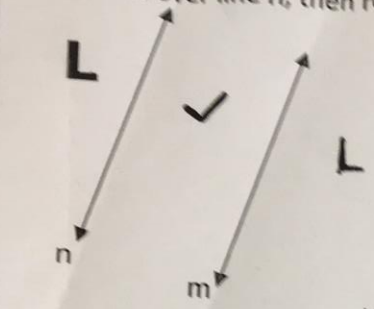
Use patty paper to complete the transformations below:

10. Reflect over line n, then reflect over line m.



Measure the distance from the preimage to the final image.

3.8cm

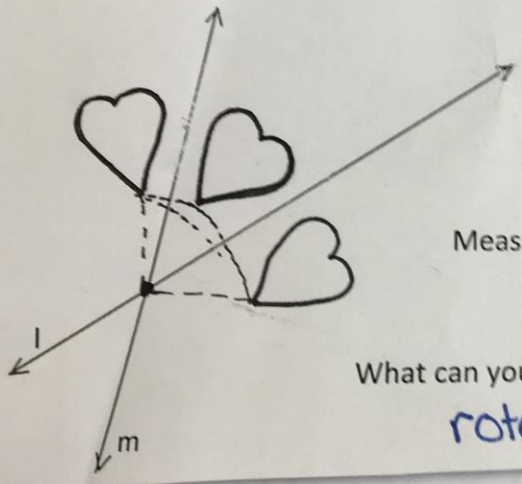
Measure the distance from line n to line m.

1.9cm

What can you conclude about consecutive reflections over parallel lines?

translation of distance = double distance between || lines

11. Reflect over line m, then reflect over line l.



Measure the acute angle formed by line l and line m.

45°

Measure the angle of rotation (from the preimage to the final image)

90°

What can you conclude about consecutive reflections over intersecting lines?

rotation = twice the degree between the intersecting lines with a center of rotation at the intersection

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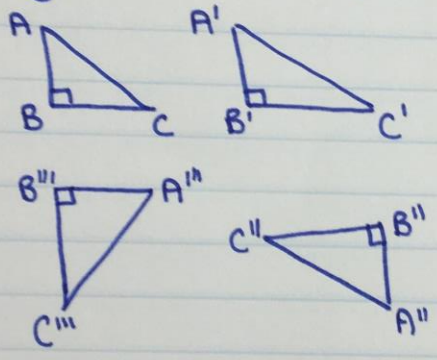
A composition is a sequence of transformations.

Two reflections across parallel lines is the same as a translation.

A double reflection across intersecting lines is the same as a rotation with center at the point of intersection of the two lines.

Same Orientation
Facing the same way.

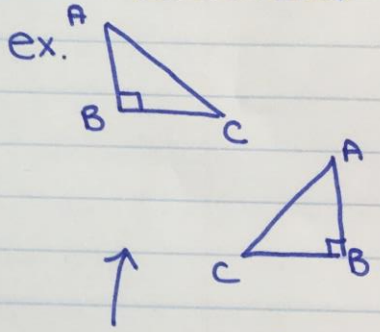
ex.



* tip: read in alphabetical order - all should be clockwise or all should be counterclockwise

Opposite Orientation

ex.



one reads CW, the other CCW.