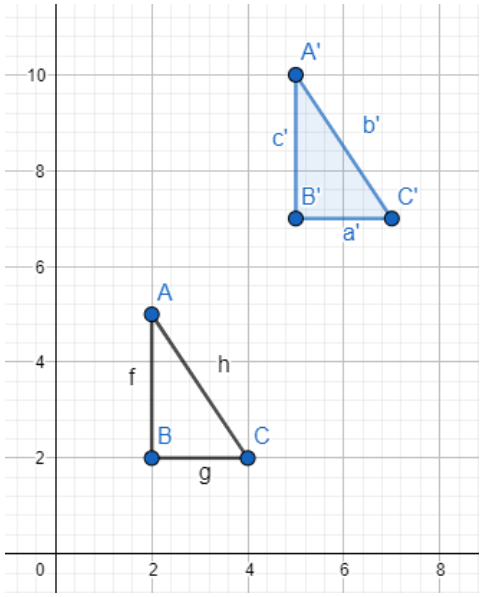
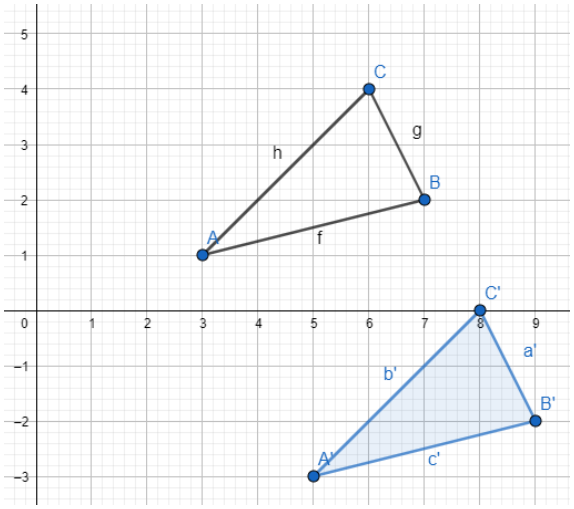
Cassidy Fleury
Technology Project Worksheet
Topic: Triangles under transformations using Geogebra

Translation: A figure is moved from one location to another location without changing its size, shape or orientation

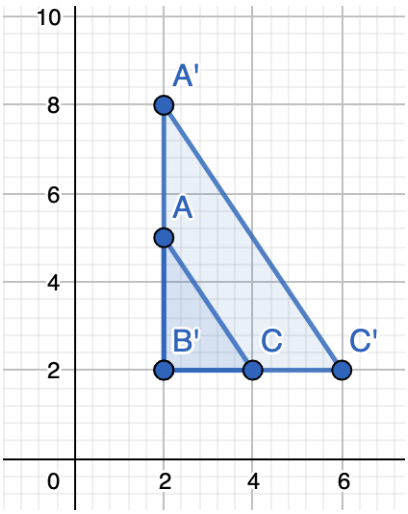


Input:
Translate(Polygon(A,B,C),(3,5))



Your turn
What is going on?
Shape is moving (circle 2)
Right, left, up, down
How would you input this?
Translate(Polygon(A,B,C),(__,__))

Dilation: Changing the size of an object without changing its shape. The size of the object may be increased or decreased based on the scale factor

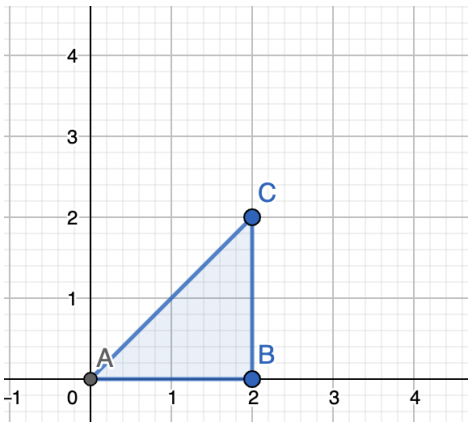


Dilate(Polygon(A, B, C), 2, B)

A (2,5) A1 (2,8)

B (2,2) B1 (2,2)

C (4,2) C1 (6,2)



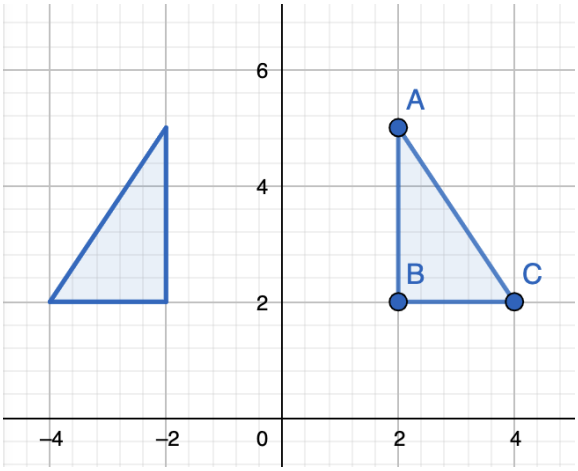
What would the points be for A', B', C' if the scale factor was 2 with a dilation center point of A?

A' = (,)

B' = (,)

C' = (,)

Reflection: A geometric transformation resulting in a mirror image.



Reflection over y axis

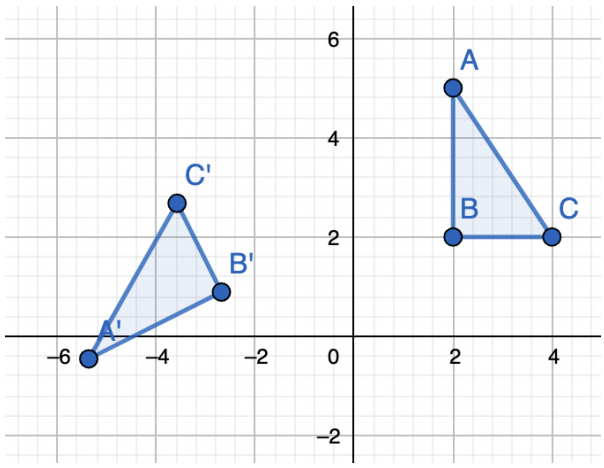
Input: Reflect(Polygon(A,B,C),x=0)

Old points:
A= (2,5)
B= (2,2)
C= (4,2)
What are the new points?
A' = (,)

B' = (,)

C' = (,)

Rotation: A circular movement. Rotation has a central point that stays fixed and everything else moves around that point.



Rotate(Polygon(A,B,C), 90)

Where is this polygon rotating about/around?

Point: (,)

How would you make Polygon ABC rotate around the origin 180 degrees?

_____

Extra Practice:

1) Given: Triangle A (-4,2), B(-2,4), C (-4,6)

New points once reflected over the x axis:

A' (,)

B' (,)

C' (,)

2) Given: Triangle A(0,-4), B(2,-4), C(0,0)

What would be the new points given this formula to input in Geogebra:

Translate(Polygon(A,B,C),(-3,-4)

A'(,)

B'(,)

C'(,)