

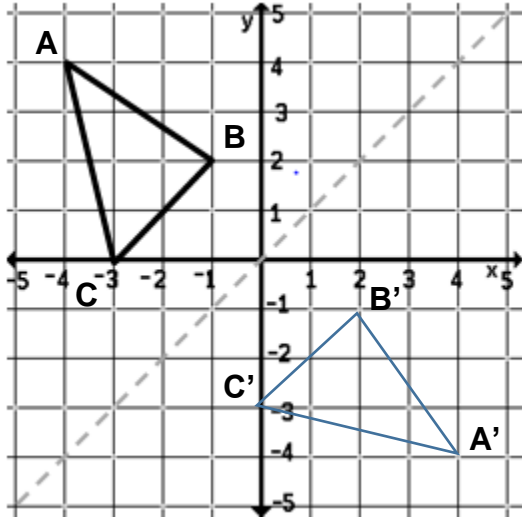
Name: \_\_\_\_\_

Date: \_\_\_\_\_

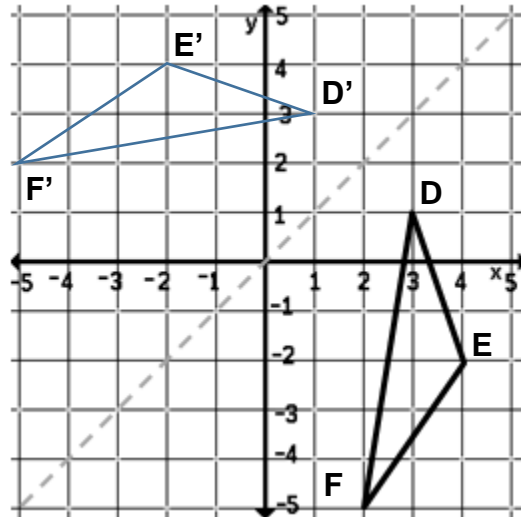
# Julia's Reflections

Julia is tired of reflecting over the x and y axes all the time, so she decides to try reflecting some triangles over the line  $y = x$ . (shown below as a dotted line) This is what she comes up with:

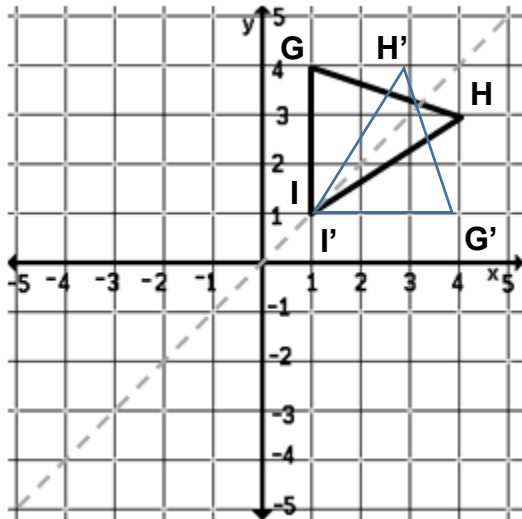
Reflection 1



Reflection 2



Reflection 3



Write in the coordinates of each original point and its corresponding reflection.

A: (-4, 4)      A': (4, -4)

B: \_\_\_\_\_      B': \_\_\_\_\_

C: \_\_\_\_\_      C': \_\_\_\_\_

D: \_\_\_\_\_      D': \_\_\_\_\_

E: \_\_\_\_\_      E': \_\_\_\_\_

F: \_\_\_\_\_      F': \_\_\_\_\_

G: \_\_\_\_\_      G': \_\_\_\_\_

H: \_\_\_\_\_      H': \_\_\_\_\_

I: \_\_\_\_\_      I': \_\_\_\_\_

Do you think Julia's reflections are correct? Why or why not?

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Julia now wants to come up with a rule for reflecting over the line  $y = x$ . Based off of her three reflections, this is what she comes up with:

Whenever you reflect over the line  $y = x$ , you have to add 3 to  $x$  and subtract 3 from  $y$ . I know this because  $(-1, 2)$  reflected to  $(2, -1)$ ,  $(-3, 0)$  reflected to  $(0, -3)$ , and  $(1, 4)$  reflected to  $(4, 1)$ .

Do you agree or disagree with Julia? Using evidence from her work, write an argument to support why you think she is correct or incorrect.

I **agree** / **disagree** (circle one) with Julia because \_\_\_\_\_

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One example that **supports** / **contradicts** (circle one) Julia's pattern is

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