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# Online HW 5: Transformations

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## **Toward Congruence and Similarity**

*Short-answer problems about transformations.*

**Question 1** *What is your name?*

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**Question 2** *What is required to specify a translation?*

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**Question 3** *What is required to specify a rotation?*

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**Question 4** *What is required to specify a reflection?*

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Sometimes a sequence of transformations can be described as a single translation, rotation, or reflection.

**Question 5** *What kind of transformation is a translation followed by a translation? Explain. Be sure to consider any special cases.*

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**Question 6** *What kind of transformation is a rotation followed by a rotation? Explain. Be sure to consider any special cases.*

**Question 7** *What kind of transformation is a reflection followed by another reflection? Explain. Be sure to consider any special cases.*

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**Question 8** *Will the letter  $F$  look like an  $F$  after a reflection? What about after a sequence of two reflections? What about after a sequence of 73 or 124 reflections? Explain your reasoning.*

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**Question 9** *How will your answer to the previous problem change if you use a capital  $D$ ? Explain.*

**Question 10** Given a figure and its image after a translation, how do you find the direction and distance of the translation? How many points and images do you need?

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**Question 11** Given a figure and its image after a reflection, how do you find the line of reflection? How many points and images do you need?

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**Question 12** Given a figure and its image after a rotation, how do you find the center and the angle of the rotation? How many points and images do you need?

