Online HW 5: Transformations

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Transformations

Short-answer problems about transformations.

Question 1 *What is your name?*

Question 2 *To specify a translation, we need a* $\boxed{?}$ *. Equivalently, we need a magnitude (or length) and a* $\boxed{?}$ *.*

Question 3 *To specify a rotation, we need a* $\boxed{?}$ *and an* $\boxed{?}$ *(assuming an agreement about the direction of rotation).*

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Question 4 *To specify a reflection, we need a* $\boxed{?}$.

Question 5 *A transformation that does nothing is call the* $\boxed{?}$. *(Hint: Two words.)*

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

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

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

Question 8 *What kind of transformation is a reflection followed by another reflection? Explain. Be sure to consider any special cases.*

Question 9 *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.*

Question 10 *How will your answer to the previous problem change if you use a capital D? Explain.*

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

Question 12 *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?*

Question 13 *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?*