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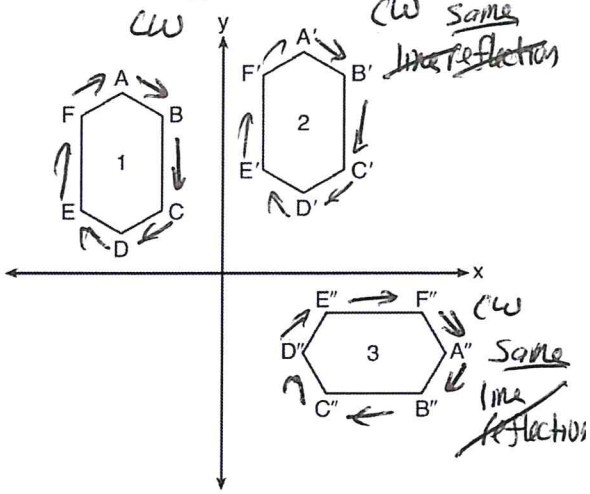
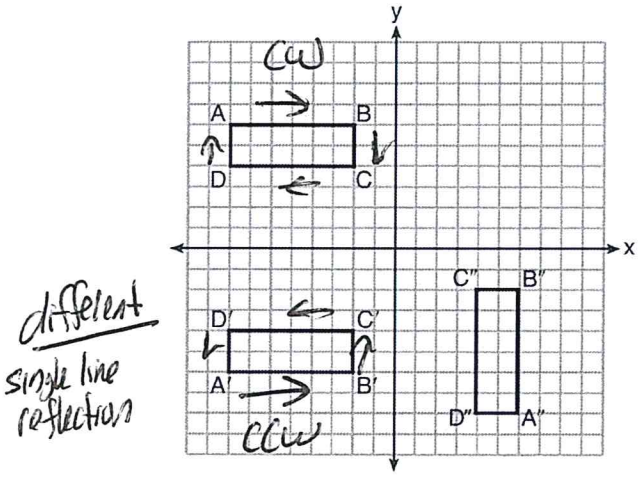
Date_____
Geometry

Identifying Sequences of Rigid Motions Multiple Choice

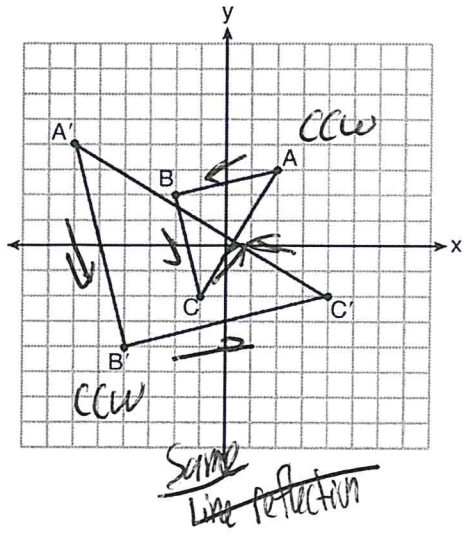
1. In the diagram below, congruent figures 1, 2, and 3 are drawn.
Which sequence of transformations maps figure 1 onto figure 2 and then figure 2 onto figure 3?
1) a line reflection followed by a translation
2) a point reflection followed by a translation
3) a translation followed by a reflection
4) a translation followed by a rotation



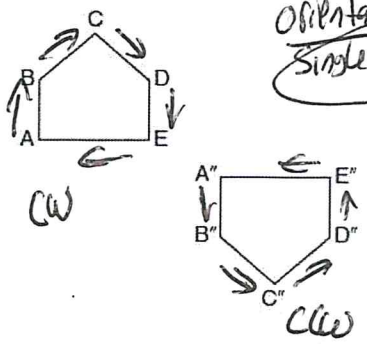
2. A sequence of transformations maps rectangle *ABCD* onto rectangle *A"B"C"D"*, as shown in the diagram below.
Which sequence of transformations maps *ABCD* onto *A'B'C'D'* and then maps *A'B'C'D'* onto *A"B"C"D"*?
1) a line reflection followed by a rotation
2) a line reflection followed by a translation
3) a translation followed by a rotation
4) a translation followed by a line reflection



3. Which sequence of transformations will map $\triangle ABC$ onto $\triangle A'B'C'$?
1) line reflection and translation
2) point reflection and line reflection
3) translation and dilation
4) dilation and rotation



4. Identify which sequence of transformations could map pentagon *ABCDE* onto pentagon *A"B"C"D"E"*, as shown below.



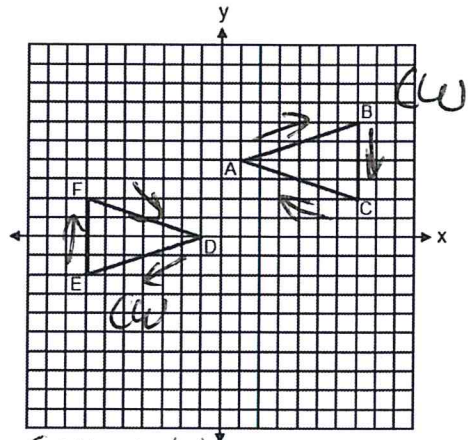
orientation different
Single line reflection

1) dilation followed by a rotation
2) translation followed by a rotation
3) line reflection followed by a translation
4) line reflection followed by a line reflection

double line reflection
keeps orientation

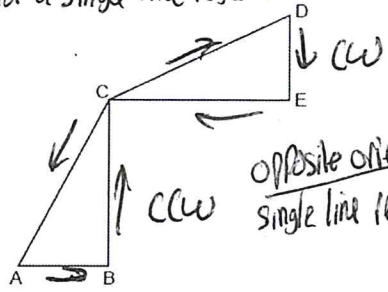
5. Triangles ABC and DEF are graphed on the set of axes below. Which sequence of rigid motions maps ΔABC onto ΔDEF ?

1) A reflection over $y = -x + 2$
2) A point reflection through (0,2)
3) A translation 2 units left followed by a reflection over the x-axis
4) A translation 4 units down folowed by a reflection over the y-axis



Same orientation
not a single line reflection

6. In the diagram below, $\triangle ABC \cong \triangle DEC$.



opposite orientation
single line reflection

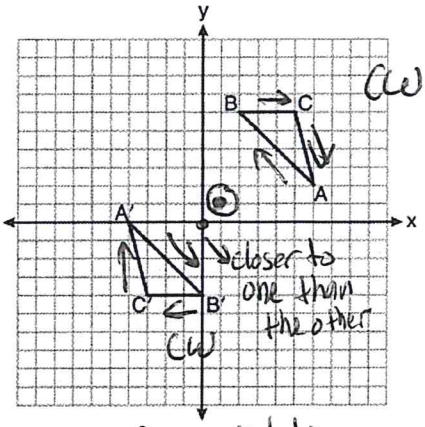
Which transformation will map $\triangle ABC$ onto $\triangle DEC$?

1) a rotation
2) a line reflection
3) a translation followed by a dilation
4) a line reflection followed by a second line reflection

not a single line reflection

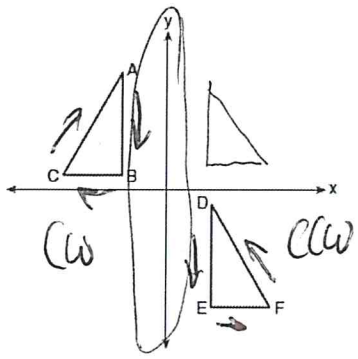
7. On the set of axes below, $\triangle ABC \cong \triangle A'B'C'$. Triangle *ABC* maps onto $\triangle A'B'C'$ after a

1) reflection over the line $y = -x$
2) reflection over the line $y = -x + 2$
3) point reflection through (1,1)
4) rotation of 180° centered at the origin



Same orientation
not a single reflection

8. In the diagram below, $\triangle ABC \cong \triangle DEF$.



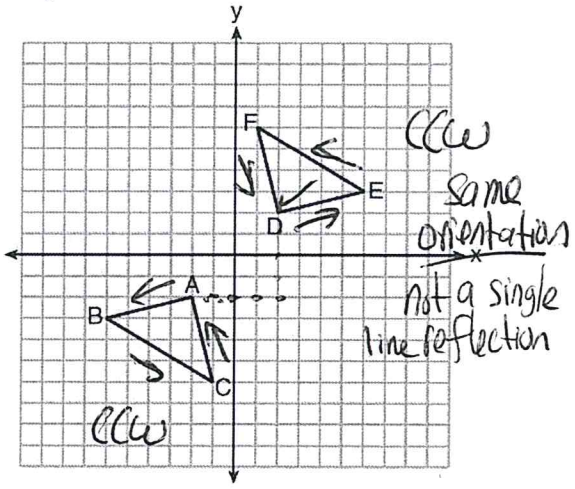
opposite orientation
single line reflection

Which sequence of transformations maps $\triangle ABC$ onto $\triangle DEF$?

1) a reflection over the x-axis followed by a translation
2) a reflection over the y-axis followed by a translation
3) a rotation of 180° about the origin followed by a translation
4) a counterclockwise rotation of 90° about the origin followed by a translation

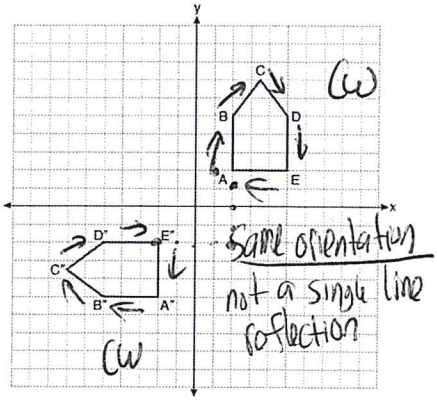
9. Triangle ABC and triangle DEF are graphed on the set of axes below. Which sequence of transformations maps triangle ABC onto triangle DEF?

1) a reflection over the x-axis followed by a reflection over the y-axis
2) a point reflection through the origin followed by a reflection over the line $y = x$
3) a 90° clockwise rotation about the origin followed by a reflection over the y-axis
4) a translation 8 units to the right and 1 unit up followed by a 90° counterclockwise rotation about the origin



10. On the set of axes below, pentagon $ABCDE$ is congruent to $A''B''C''D''E''$. Which describes a sequence of rigid motions that maps $ABCDE$ onto $A''B''C''D''E''$?

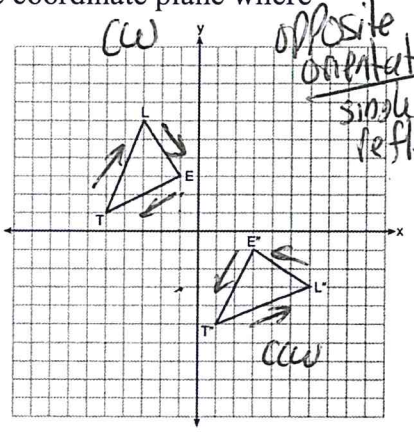
1) a rotation of 90° counterclockwise about the origin followed by a reflection over the x-axis
2) a rotation of 90° counterclockwise about the origin followed by a translation down 7 units
3) a reflection over the y-axis followed by a reflection over the x-axis doesn't work
4) a reflection over the x-axis followed by a rotation of 90° counterclockwise about the origin



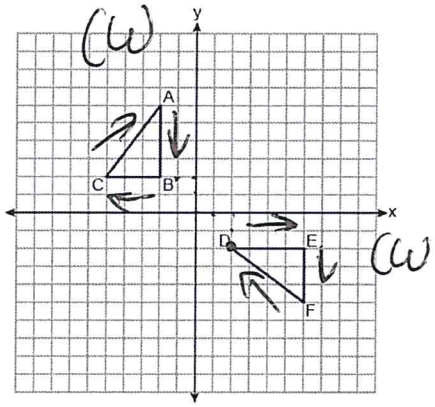
11. On the set of axes below, $\triangle LET$ and $\triangle L''E''T''$ are graphed in the coordinate plane where $\triangle LET \cong \triangle L''E''T''$.

Which sequence of rigid motions maps $\triangle LET$ onto $\triangle L''E''T''$?

1) a reflection over the *y*-axis followed by a reflection over the *x*-axis
2) a rotation of 180° about the origin
3) a rotation of 90° counterclockwise about the origin followed by a reflection over the *y*-axis
4) a reflection over the *x*-axis followed by a rotation of 90° clockwise about the origin



12. On the set of axes below, congruent triangles *ABC* and *DEF* are drawn.



Which sequence of transformations maps $\triangle ABC$ onto $\triangle DEF$?

1) A counterclockwise rotation of 90 degrees about the origin, followed by a translation 8 units to the right.
2) A counterclockwise rotation of 90 degrees about the origin, followed by a reflection over the *y*-axis.
3) A point reflection through the origin, followed by a translation 4 units down.
4) A clockwise rotation of 90 degrees about the origin, followed by a reflection over the *x*-axis.