**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per: \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Transformations Review**

**Answer each of the following questions. Be sure to show all necessary work.**

\_\_\_\_\_ 1) If  is the image of , under which transformation will the triangles *not* be congruent?

(1) reflection over the *x*-axis (2) translation to the left 5 and down 4

(3) dilation centered at the origin with scale factor 2 (4) rotation of 270° counterclockwise about the origin

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| --- |
|  |

\_\_\_\_\_ 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 reflection followed by a rotation |
| 2) | a reflection followed by a translation |
| 3) | a translation followed by a rotation |
| 4) | a translation followed by a reflection |

3) Reflect quadrilateral ABCD in the x axis, and then the y axis. Be sure to identify all of your coordinates.



4) Triangle *ABC* has vertices with $A\left(3, 3\right), B\left(-3, -1\right), and C( -1, -4)$ Graph and label ∆ABC and ∆A’’B’’C’’, the image of ∆ABC after $R\_{-90}o T\_{(-3, 5)}$



1. Precisely define each of the three rigid motion transformations identified below:
2. $R\_{C,90}\left(∆ABC\right)$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. $T\_{\left(-2, 5\right)}(∆ABC)$ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. $r\_{y=x} $\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Translate ∆EFG along $\vec{CD}$, below.



1. Rotate ∆ABC 60o about point P.



1. Find the center of rotation that mapped ∆ABC onto ∆A’B’C’ below:



1. Sketch the image of PQRS after a translation of 3 units down and 2 units left. Be sure to sketch the vector of translation.



1. Determine the line of reflection of the pre-image and its image below:



1. Identify the series of rigid motions that mapped ∆XYZ onto ∆X”Y”Z”. Be sure to use proper function notation.



1. Perform the indicated operation(s) on ∆CAT below: $R\_{C,60}o T\_{\vec{HE}}$

