Name: _____

G.SRT.A.2: Compositions of Transformations 1

1 The point $(3,-2)$ is rotated 90º about the origin and then dilated by a scale factor of 4. What are the coordinates of the resulting image?
1) $(-12,8)$
2) $(12,-8)$
3) $(8,12)$
4) $(-8,-12)$

2 If the coordinates of P are $(-2,7)$, what are the coordinates of $(D_2 \circ r_{y=x})(P)$?
1) $(4,-14)$
2) $(-14,4)$
3) $(-4,14)$
4) $(14,-4)$

3 If the coordinates of point A are $(-2,3)$, what is the image of A under $r_{y-\text{axis}} \circ D_3$?
1) $(-6,-9)$
2) $(9,-6)$
3) $(5,6)$
4) $(6,9)$

4 If point A has coordinates $(-3,4)$, what are the coordinates of A', the image of A under $r_{y=\text{axis}} \circ D_2$?

5 Find the coordinates of the image of $(-3,-4)$ under the transformation $D_2 \circ R_{90°}$.

6 The endpoints of $\overline{AB}$ are $A(3,2)$ and $B(7,1)$. If $\overline{A''B''}$ is the result of the transformation of $\overline{AB}$ under $D_2 \circ T_{-4,3}$ what are the coordinates of A'' and B''?
1) $A''(-2,10)$ and $B''(6,8)$
2) $A''(-1,5)$ and $B''(3,4)$
3) $A''(2,7)$ and $B''(10,5)$
4) $A''(14,-2)$ and $B''(22,-4)$

7 The coordinates of $\triangle ABC$ are $A(1,1)$, $B(2,3)$, and $C(3,1)$. If $\triangle A'B'C'$ is the result of the transformation $D_2 \circ r_{y-\text{axis}}$, then $\triangle A'B'C'$ is
1) similar to $\triangle ABC$
2) congruent to $\triangle ABC$
3) a right triangle
4) an equilateral triangle

8 Triangle $A'B'C'$ is the image of $\triangle ABC$ after a dilation followed by a translation. Which statement(s) would always be true with respect to this sequence of transformations?
I. $\triangle ABC \cong \triangle A'B'C'$
II. $\triangle ABC \sim \triangle A'B'C'$
III. $\overline{AB} \parallel \overline{A'B'}$
IV. $AA' = BB'$
1) II, only
2) I and II
3) II and III
4) II, III, and IV

G.SRT.A.2: Compositions of Transformations 1
Answer Section

1 ANS: 3
$(3,-2) \rightarrow (2,3) \rightarrow (8,12)$

REF: 011126ge

2 ANS: 4 REF: 019723siii

3 ANS: 4
After the dilation, the coordinates are (–6,9). After the reflection, the coordinates are (6,9).

REF: 010520b

4 ANS:
$(6,8)$

REF: 080010siii

5 ANS:
$(8,-6)$

REF: 089340siii

6 ANS: 1
After the translation, the coordinates are $A'(-1,5)$ and $B'(3,4)$. After the dilation, the coordinates are $A''(-2,10)$ and $B''(6,8)$.

REF: fall0823ge

7 ANS: 1 REF: 011002b

8 ANS: 1
NYSED accepts either (1) or (3) as a correct answer. Statement III is not true if *A, B, A'* and *B'* are collinear.

REF: 061714geo