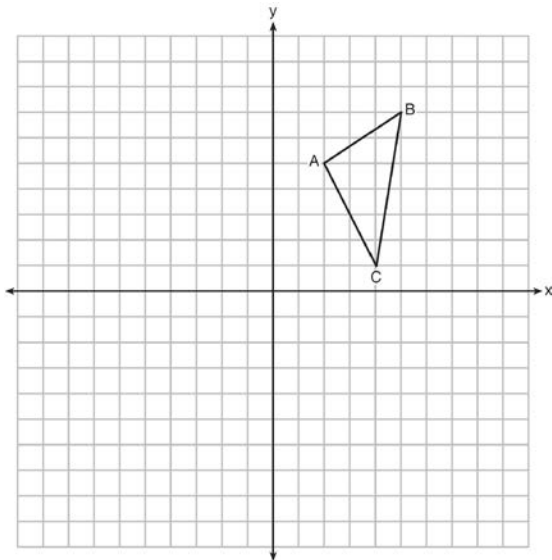
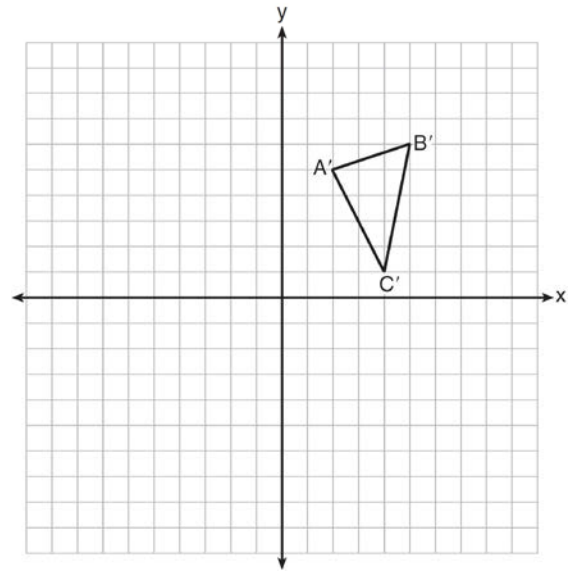


G.CO.A.5: Compositions of Transformations 2

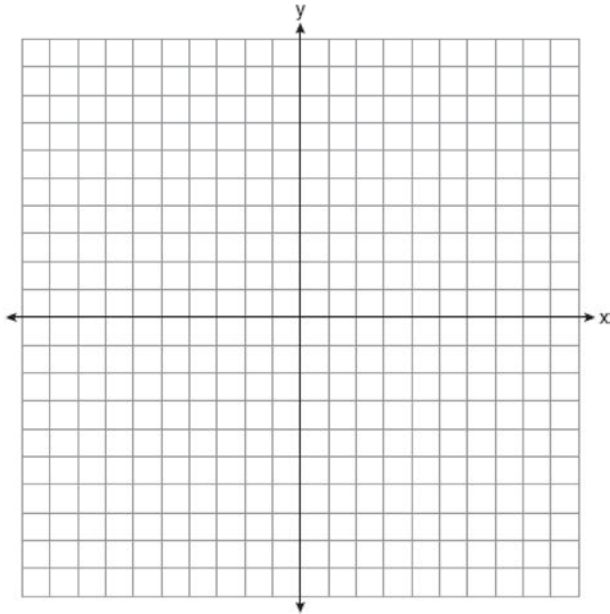
- 1 The coordinates of $\triangle ABC$, shown on the graph below, are $A(2,5)$, $B(5,7)$, and $C(4,1)$. Graph and label $\triangle A'B'C'$, the image of $\triangle ABC$ after it is reflected over the y -axis. Graph and label $\triangle A''B''C''$, the image of $\triangle A'B'C'$ after it is reflected over the x -axis. State a single transformation that will map $\triangle ABC$ onto $\triangle A''B''C''$.



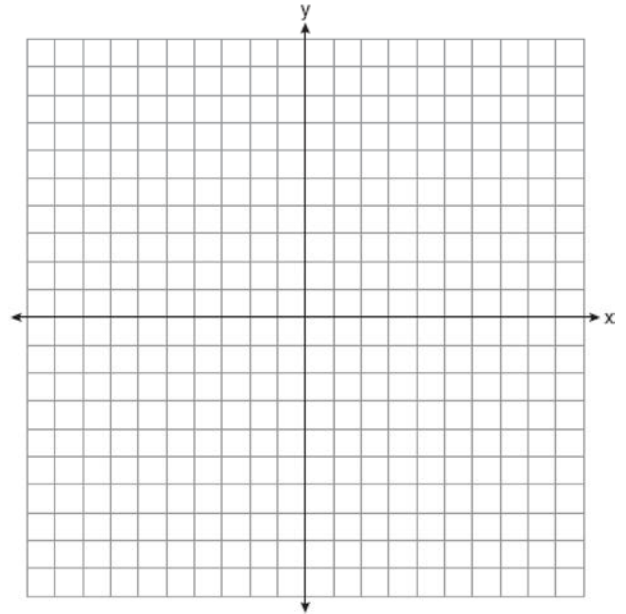
- 2 The graph below shows $\triangle A'B'C'$, the image of $\triangle ABC$ after it was reflected over the y -axis. Graph and label $\triangle ABC$, the pre-image of $\triangle A'B'C'$. Graph and label $\triangle A''B''C''$, the image of $\triangle A'B'C'$ after it is reflected through the origin. State a single transformation that will map $\triangle ABC$ onto $\triangle A''B''C''$.



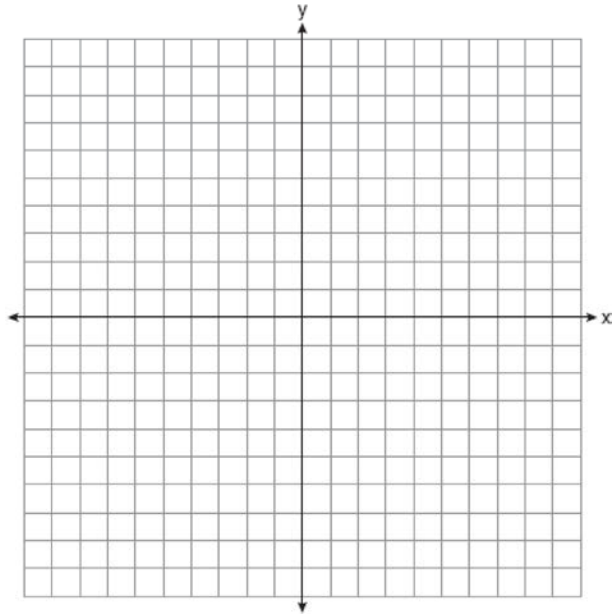
- 3 The vertices of $\triangle RST$ are $R(-6,5)$, $S(-7,-2)$, and $T(1,4)$. The image of $\triangle RST$ after the composition $T_{-2,3} \circ r_{y=x}$ is $\triangle R''S''T''$. State the coordinates of $\triangle R''S''T''$. [The use of the set of axes below is optional.]



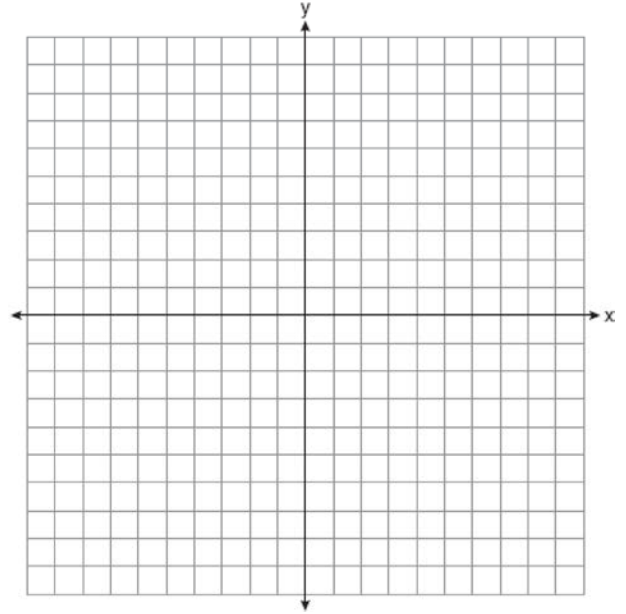
- 4 The coordinates of the vertices of $\triangle ABC$ are $A(-6,5)$, $B(-4,8)$, and $C(1,6)$. State and label the coordinates of the vertices of $\triangle A''B''C''$, the image of $\triangle ABC$ after the composition of transformations $T_{(4,-5)} \circ r_{y\text{-axis}}$. [The use of the set of axes below is optional.]



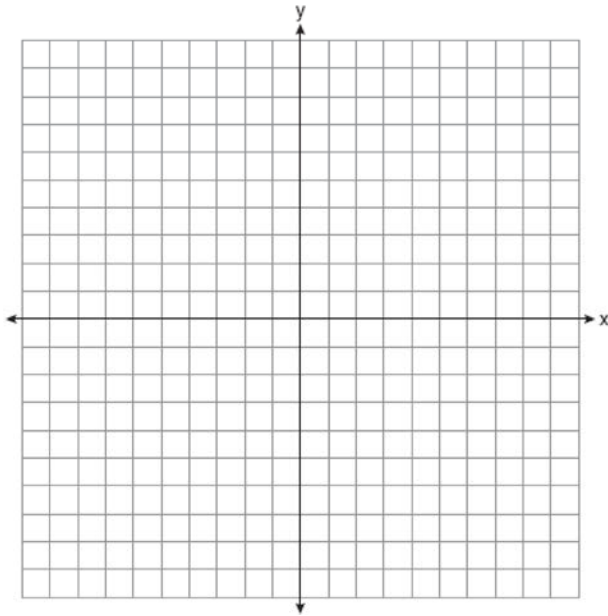
- 5 The coordinates of trapezoid $ABCD$ are $A(-4,5)$, $B(1,5)$, $C(1,2)$, and $D(-6,2)$. Trapezoid $A''B''C''D''$ is the image after the composition $r_{x\text{-axis}} \circ r_{y=x}$ is performed on trapezoid $ABCD$. State the coordinates of trapezoid $A''B''C''D''$. [The use of the set of axes below is optional.]



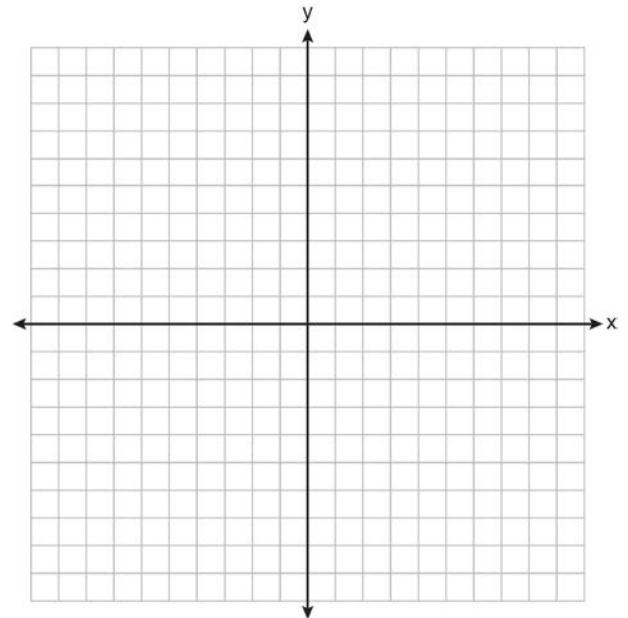
- 6 Quadrilateral $MATH$ has coordinates $M(-6,-3)$, $A(-1,-3)$, $T(-2,-1)$, and $H(-4,-1)$. The image of quadrilateral $MATH$ after the composition $r_{x\text{-axis}} \circ T_{7,5}$ is quadrilateral $M''A''T''H''$. State and label the coordinates of $M''A''T''H''$. [The use of the set of axes below is optional.]



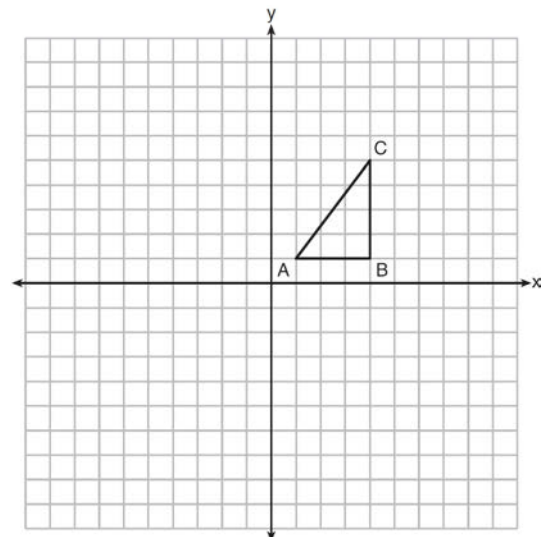
- 7 Quadrilateral *HYPE* has vertices $H(2,3)$, $Y(1,7)$, $P(-2,7)$, and $E(-2,4)$. State and label the coordinates of the vertices of $H''Y''P''E''$ after the composition of transformations $r_{x\text{-axis}} \circ T_{5,-3}$. [The use of the set of axes below is optional.]



- 8 The coordinates of the vertices of parallelogram $ABCD$ are $A(-2,2)$, $B(3,5)$, $C(4,2)$, and $D(-1,-1)$. State the coordinates of the vertices of parallelogram $A''B''C''D''$ that result from the transformation $r_{y\text{-axis}} \circ T_{2,-3}$. [The use of the set of axes below is optional.]

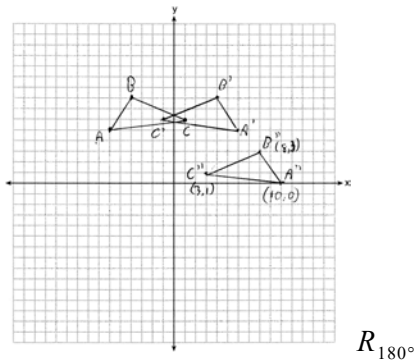


- 9 In the diagram below, $\triangle ABC$ has coordinates $A(1,1)$, $B(4,1)$, and $C(4,5)$. Graph and label $\triangle A''B''C''$, the image of $\triangle ABC$ after the translation five units to the right and two units up followed by the reflection over the line $y = 0$.



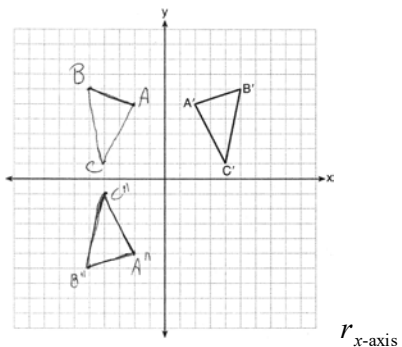
G.CO.A.5: Compositions of Transformations 2 Answer Section

1 ANS:



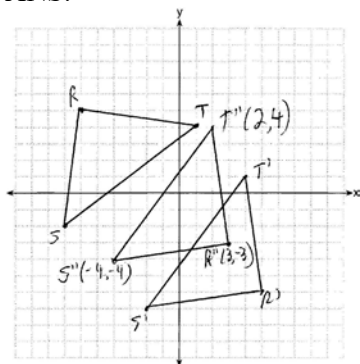
REF: 011635ge

2 ANS:



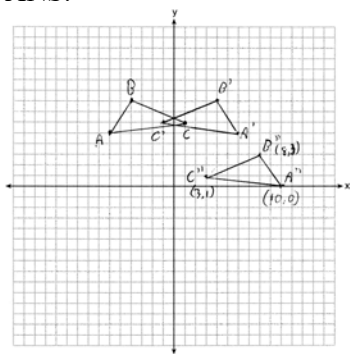
REF: 061435ge

3 ANS:



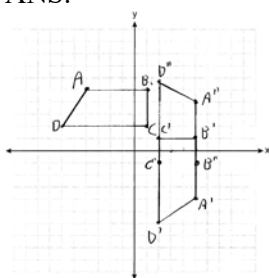
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4 ANS:



REF: 011436ge

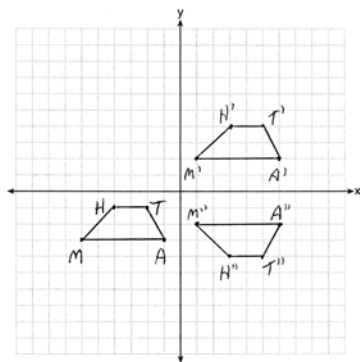
5 ANS:



$A'(5, -4), B'(5, 1), C'(2, 1), D'(2, -6); A''(5, 4), B''(5, -1), C''(2, -1), D''(2, 6)$

REF: 061236ge

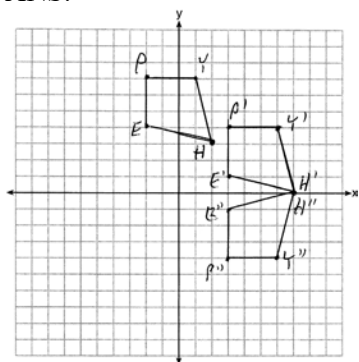
6 ANS:



$M''(1, -2), A''(6, -2), T''(5, -4), H''(3, -4)$

REF: 081336ge

7 ANS:

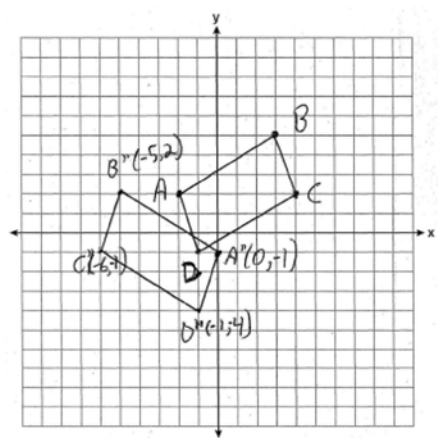


$H'(7, 0), Y'(6, 4), P'(3, 4), E'(3, 1)$

$H''(7, 0), Y''(6, -4), P''(3, -4), E''(3, -1)$

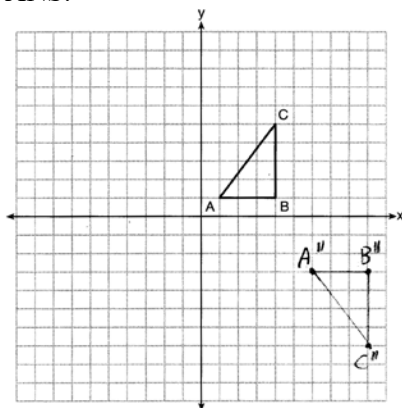
REF: 011535ge

8 ANS:



REF: 060937ge

9 ANS:



REF: 081626geo