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6 December 2018

Homework: Transformations

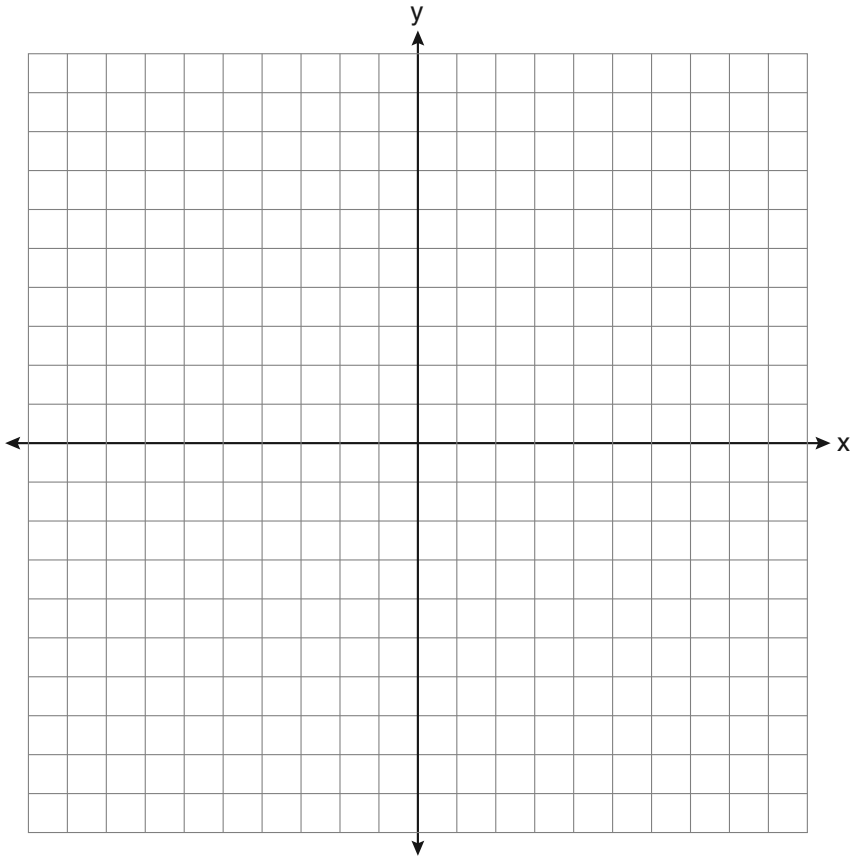
1. Triangle *DEG* has the coordinates *D*(-2, 1), *E*(-3, 4), and *G*(3, 3). Triangle *DEG* is translated $T_{+3,\,+1}$. Complete the table mapping each coordinate pair onto its image, then plot and label both triangles on the grid.

$T_{+3,\,+1}$

D(-2, 1) $\rightarrow$

E(-3, 4) $\rightarrow$

G(3, 3) $\rightarrow$



Justify that the transformation preserves distance.

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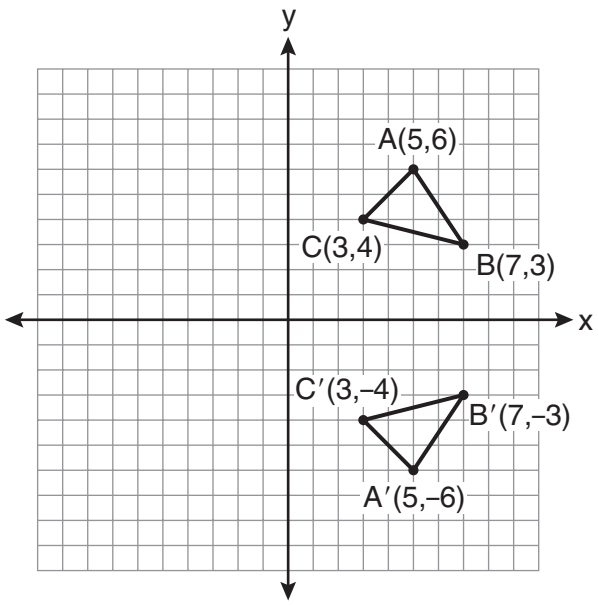
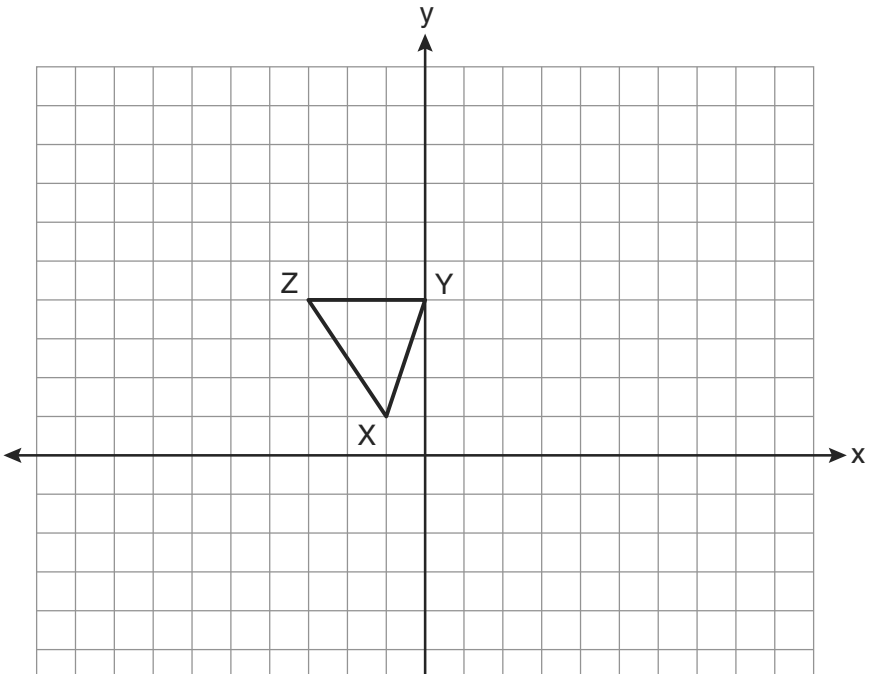
2.

Which expression best describes the transformation shown in the diagram below?



2.

Triangle XYZ, shown in the diagram below, is reflected over the line $x = 2$. State the coordinates of $\triangle X'Y'Z'$, the image of $\triangle XYZ$.



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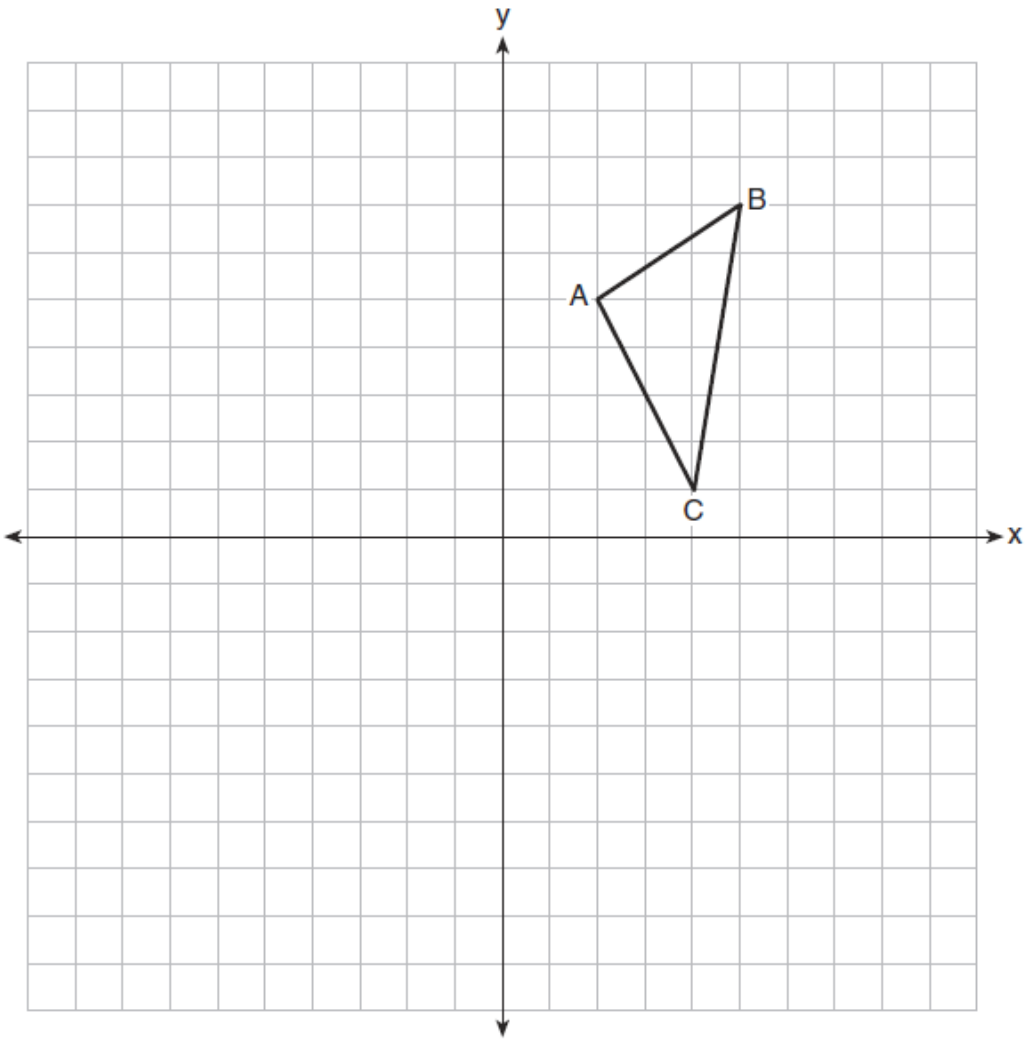
3. The coordinates of ΔABC, shown on the graph below, are $A(2,5), B(5,7), \text{and } C(4,1)$. Graph and label $\Delta A'B'C'$, the image of ΔABC after it is reflected over the *y*-axis.



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35 Triangle ABC has coordinates $A(2,-2)$, $B(2,1)$, and $C(4,-2)$. Triangle $A'B'C'$ is the image of $\triangle ABC$ under $T_{5,-2}$.

On the set of axes below, graph and label $\triangle ABC$ and its image, $\triangle A'B'C'$.

Determine the relationship between the area of $\triangle ABC$ and the area of $\triangle A'B'C'$.

Justify your response.