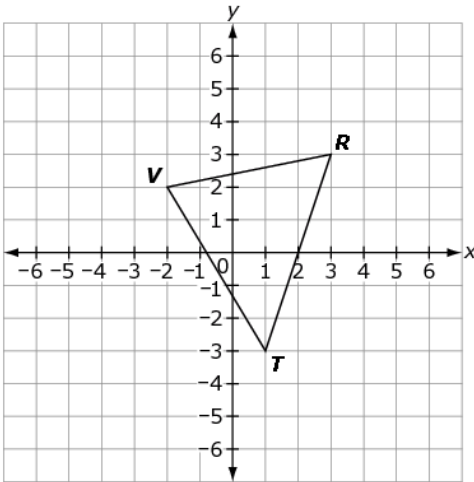| MAFS.912.G-SRT.1.2	Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.
Item Types	Editing Task Choice – May require choosing a statement in an informal argument. Equation Editor – May require creating an algebraic description for a transformation. Matching Item – May require choosing true statements that will show two figures are similar. Multiple Choice – May require selecting from choices. Multiselect – May require identifying similar figures. Open Response – May require explaining how figures are similar.
Clarifications	Students will use the definition of similarity in terms of similarity transformations to decide if two figures are similar. Students will explain using the definition of similarity in terms of similarity transformations that corresponding angles of two figures are congruent and that corresponding sides of two figures are proportional.
Assessment Limit	Items may require the student to be familiar with using the algebraic description $(x, y) \rightarrow (x + a, y + b)$ for a translation, and $(x, y) \rightarrow (kx, ky)$ for a dilation when given the center of dilation. Items may require the student to be familiar with the algebraic description for a 90-degree rotation about the origin, $(x, y) \rightarrow (-y, x)$, for a 180-degree rotation about the origin, $(x, y) \rightarrow (-x, -y)$, and for a 270-degree rotation about the origin, $(x, y) \rightarrow (y, -x)$. Items that use more than one transformation may ask the student to write a series of algebraic descriptions.
Stimulus Attribute	Items may be set in a real-world or mathematical context.
Response Attribute	Items may ask the student to determine if given information is sufficient to determine similarity.
Calculator	Neutral

Sample Item	Item Type
	Multiselect

Triangle *RTV* is shown on the graph.

Triangle *R'T'V'* is formed using the transformation (0.2*x*, 0.2*y*) centered at (0, 0).

Select the three equations that show the correct relationship between the two triangles based on the transformation.

☐ $RV = 5R'V'$

☐ $\dfrac{R'V'}{RV} = \dfrac{\sqrt{26}}{0.2\sqrt{26}}$

☐ $0.04\sqrt{10}RT = \sqrt{10}R'T'$

☐ $RT = 0.2R'T'$

☐ $0.2T'V' = TV$

☐ $\dfrac{TV}{T'V'} = \dfrac{\sqrt{34}}{0.2\sqrt{34}}$