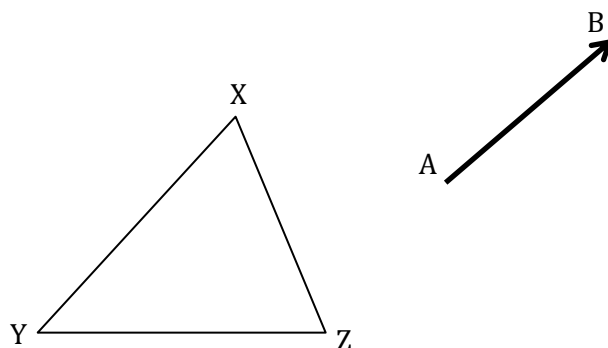


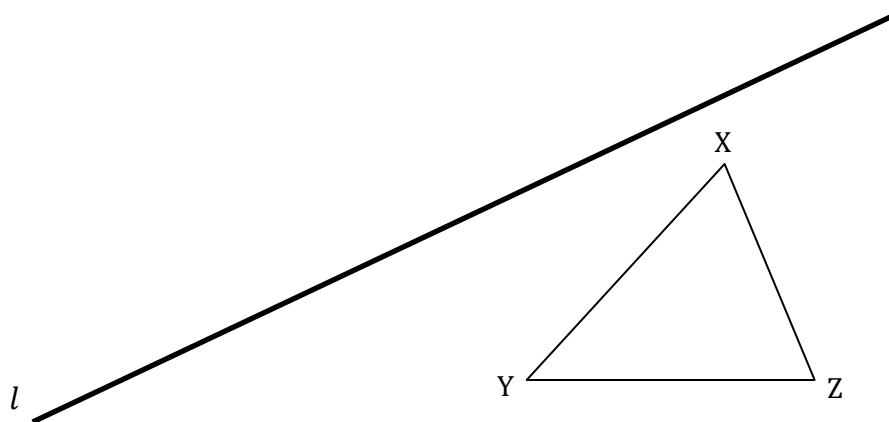
Name _____

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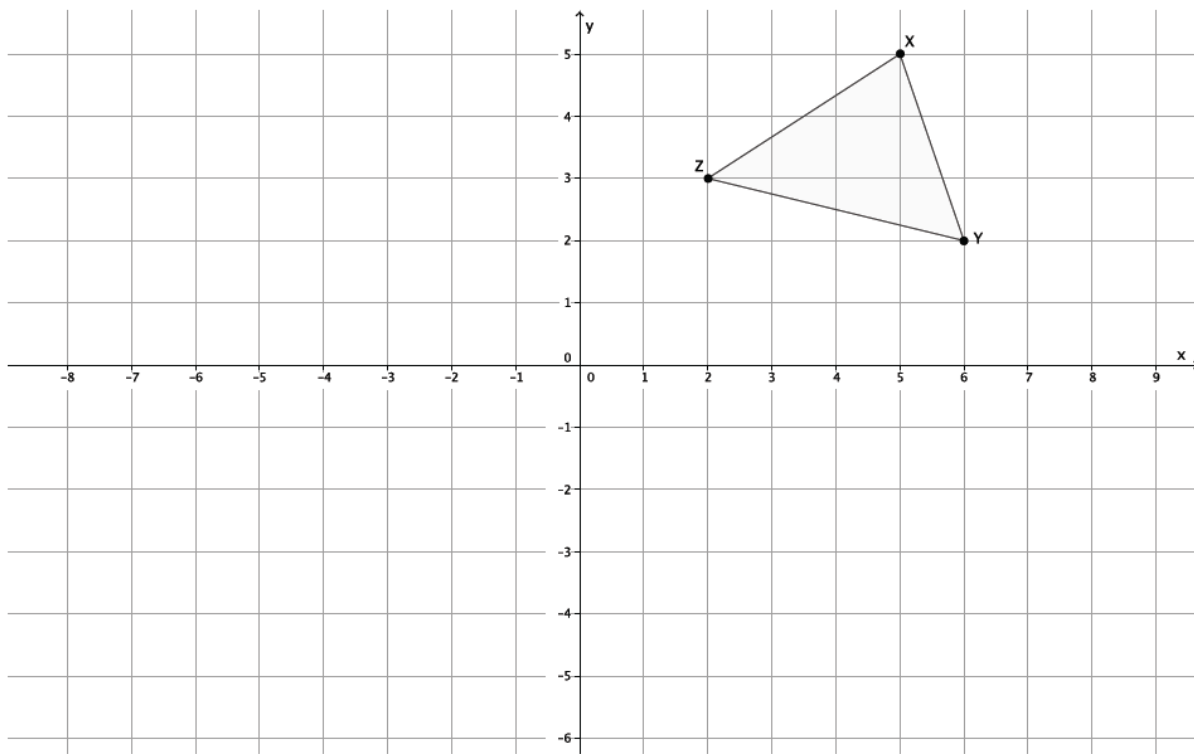
- 1.
- a. Translate $\triangle XYZ$ along \overrightarrow{AB} . Label the image of the triangle with X' , Y' , and Z' .



- b. Reflect $\triangle XYZ$ across the line of reflection, l . Label the image of the triangle with X' , Y' , and Z' .

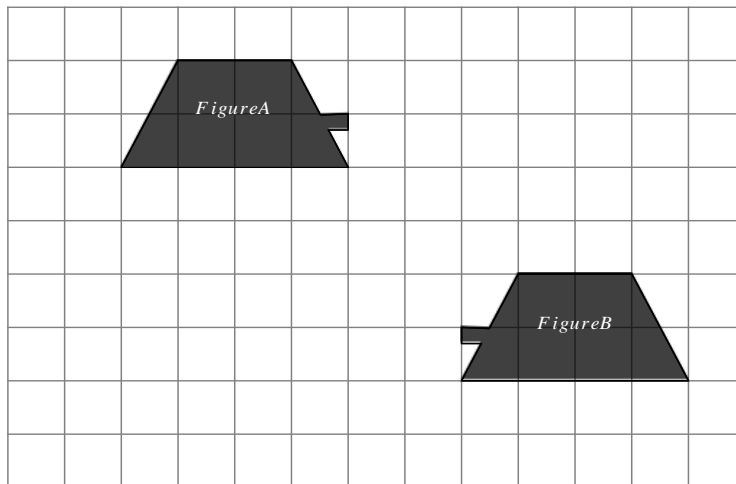


- c. Rotate $\triangle XYZ$ around the point $(1,0)$ clockwise 90° . Label the image of the triangle with X' , Y' , and Z' .



2. Use the picture below to answer the questions.

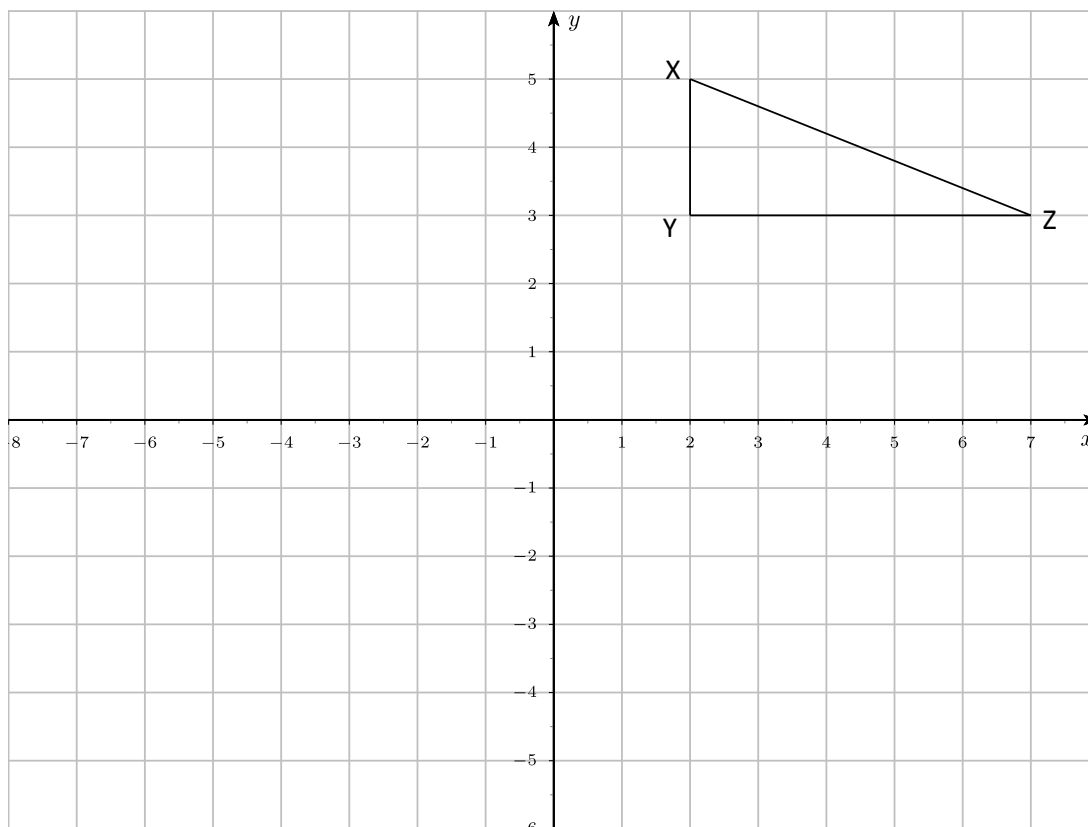
Figure A has been transformed to Figure B.



- a. Can Figure A be mapped onto Figure B using only translation? Explain. Use drawings as needed in your explanation.
- b. Can Figure A be mapped onto Figure B using only reflection? Explain. Use drawings as needed in your explanation.

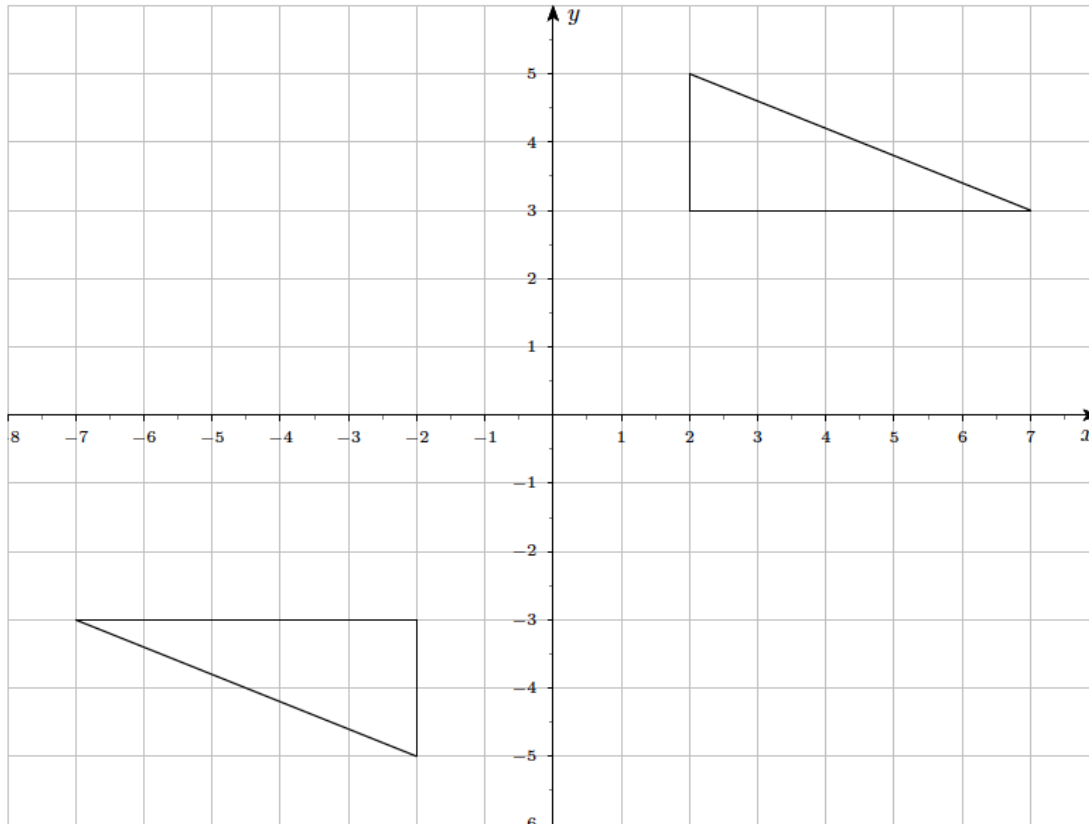
3. Use the graphs below to answer parts (a) and (b).

- a. Reflect $\triangle XYZ$ over the horizontal line (parallel to the x -axis) through point $(0,1)$. Label the reflected image with $X'Y'Z'$.



- b. One triangle in the diagram below can be mapped onto the other using two reflections. Identify the lines of reflection that would map one onto the other. Can you map one triangle onto the other

using just one basic rigid motion? If so, explain.



Assessment Task Item		STEP 1 Missing or incorrect answer and little evidence of reasoning or application of mathematics to solve the problem.	STEP 2 Missing or incorrect answer but evidence of some reasoning or application of mathematics to solve the problem.	STEP 3 A correct answer with some evidence of reasoning or application of mathematics to solve the problem, <u>or</u> an incorrect answer with substantial evidence of solid reasoning or application of mathematics to solve the problem.	STEP 4 A correct answer supported by substantial evidence of solid reasoning or application of mathematics to solve the problem.
1	a 8.G.A.1	Student is unable to respond to the question or leaves item blank. Student enlarges or shrinks image. Student reflects or rotates image.	Student translates along a vector. Student uses a different vector than what was given. Student shortens or lengthens given vector. Student does not label image or labels image incorrectly.	Student translates correctly along vector. Student does not label image or labels image incorrectly.	Student translates correctly along vector and labels image correctly.
	b 8.G.A.1	Student is unable to respond to the question or leaves item blank. Student enlarges or shrinks image. Student translates or rotates the image.	Student reflects across line, but may reflect across a different line than what is given. Student does not label image or labels image incorrectly. The orientation of the image may be incorrect.	Student reflects correctly across line. Student does not label image or labels image incorrectly.	Student reflects correctly across line and labels image correctly.
	c 8.G.A.1	Student is unable to respond to the question or leaves item blank. Student translates the triangle to the correct quadrant. Student reflects the triangle to the correct quadrant.	Student rotates about the point (1,0). Student rotates the triangle counter-clockwise 90°. Student rotates more or less than 90°. Student does not label image or labels image incorrectly.	Student rotates about the point (1,0) clockwise 90°. Student does not label image or labels image incorrectly.	Student rotates about the point (1,0) clockwise 90° and labels image correctly.
2	a 8.G.A.1	Student answers with yes or no only. Student is unable to give any explanation (pictorially or written).	Student answers with yes or no. Student shows some reasoning (pictorially or written) to solve the problem. Student shows no application of mathematics to solve the problem.	Student answers correctly with no. Student uses a pictorial explanation only as evidence of reasoning. Some evidence of mathematical reasoning is evident in explanation. Student does not use mathematical vocabulary in explanation.	Student answers correctly with no and uses mathematical vocabulary in explanation. Student may use pictorial explanation to enhance mathematical explanation.

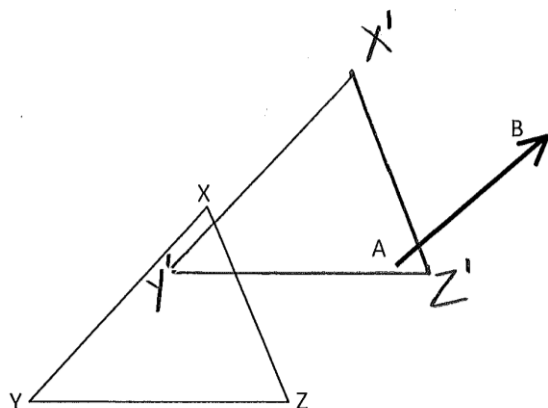
	b 8.G.A.1	Student answers with yes or no only. Student is unable to give any explanation (pictorially or written).	Student answers with yes or no. Student shows some reasoning (pictorially or written) to solve the problem. Student shows no application of mathematics to solve the problem.	Student answers correctly with no. Student uses a pictorial explanation only as evidence of reasoning. Some evidence of mathematical reasoning is evident in explanation. Student does not use mathematical vocabulary in explanation.	Student answers correctly with no and uses mathematical vocabulary in explanation. Student may use pictorial explanation to enhance mathematical explanation.
3	a 8.G.A.1	Student is unable to respond to the question or leaves item blank. Student shows no reasoning or application of mathematics to solve the problem.	Student reflects triangle across any line other than the line $y = 1$. The orientation of the triangle may or may not be correct. Student may or may not label the triangle correctly.	Student reflects triangle across the line $y = 1$. The orientation of the triangle is correct. Student may or may not label the triangle correctly.	Student reflects triangle across the line $y = 1$, and the orientation of the triangle is correct. Student labels the triangle correctly.
	b 8.G.A.1	Student is unable to respond to the questions or leaves items blank. Student answers with yes or no only. Student may or may not identify the lines of reflection. No evidence of mathematical reasoning is used in written explanation.	Student answers with yes or no. Student may or may not identify the lines of reflection. Student identifies a rotation as the rigid motion. Student may or may not identify the degree of rotation or the center of rotation. Some evidence of mathematical reasoning is used in written explanation.	Student answers correctly with yes. Student identifies the lines of reflection. Student identifies a rotation as the rigid motion. Student identifies the degree of rotation. Student may or may not identify the center of rotation. Some evidence or mathematical reasoning is used in written explanation.	Student answers correctly with yes. Student correctly identifies the lines of reflection as $y = 0$, then $x = 0$ <u>OR</u> as $x = 0$, then $y = 0$. Student identifies a rotation as the rigid motion. Student identifies the degree of rotation as 180. Student identifies the center of rotation as the origin and substantial evidence of mathematical reasoning is used in written explanation.

Name _____

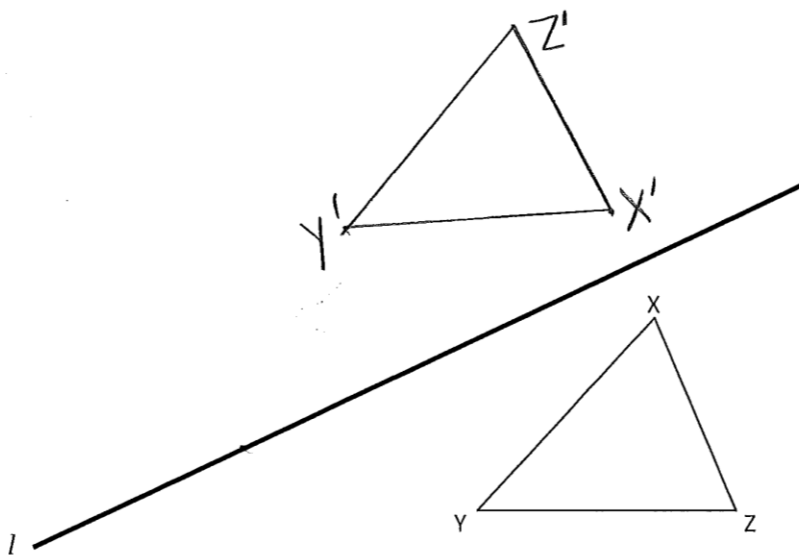
Date _____

1.

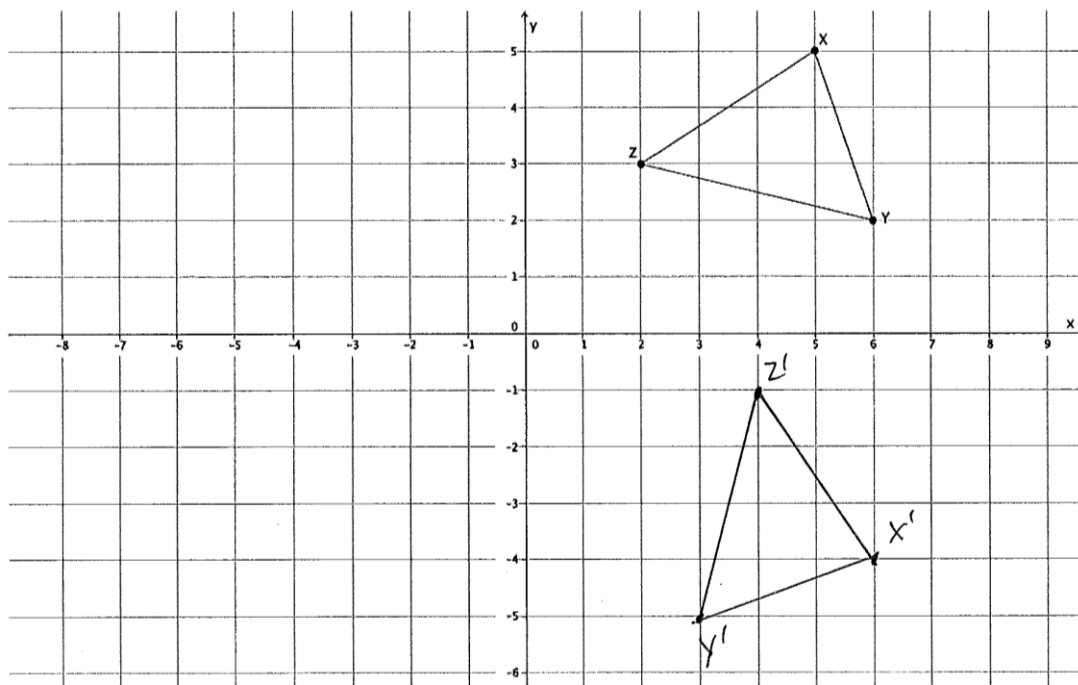
- a. Translate $\triangle XYZ$ along \overrightarrow{AB} . Label the image of the triangle with X' , Y' , and Z' .



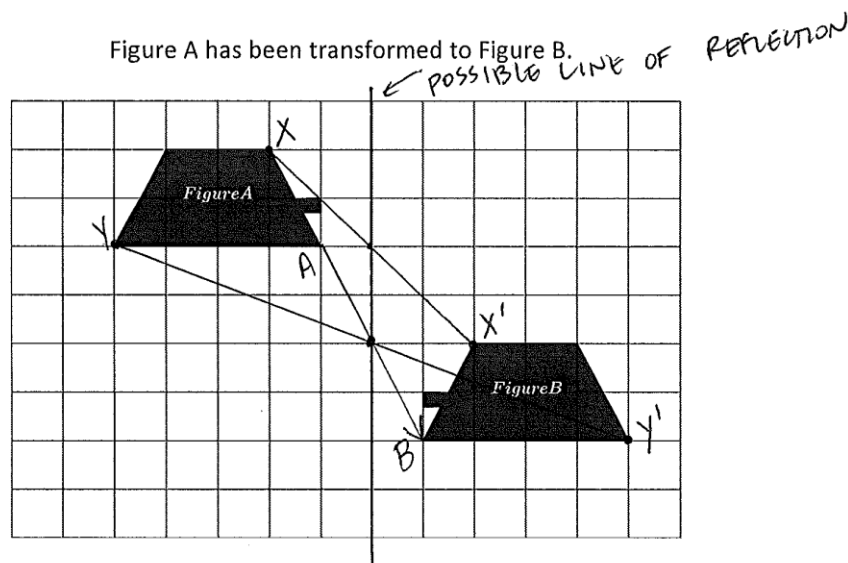
- b. Reflect $\triangle XYZ$ across the line of reflection, l . Label the image of the triangle with X' , Y' , and Z' .



- c. Rotate $\triangle XYZ$ around the point $(1,0)$ clockwise 90° . Label the image of the triangle with X' , Y' , and Z' .



2. Use the picture below to answer the questions.



- a. Can Figure A be mapped onto Figure B using only translation? Explain. Use drawings as needed in your explanation.

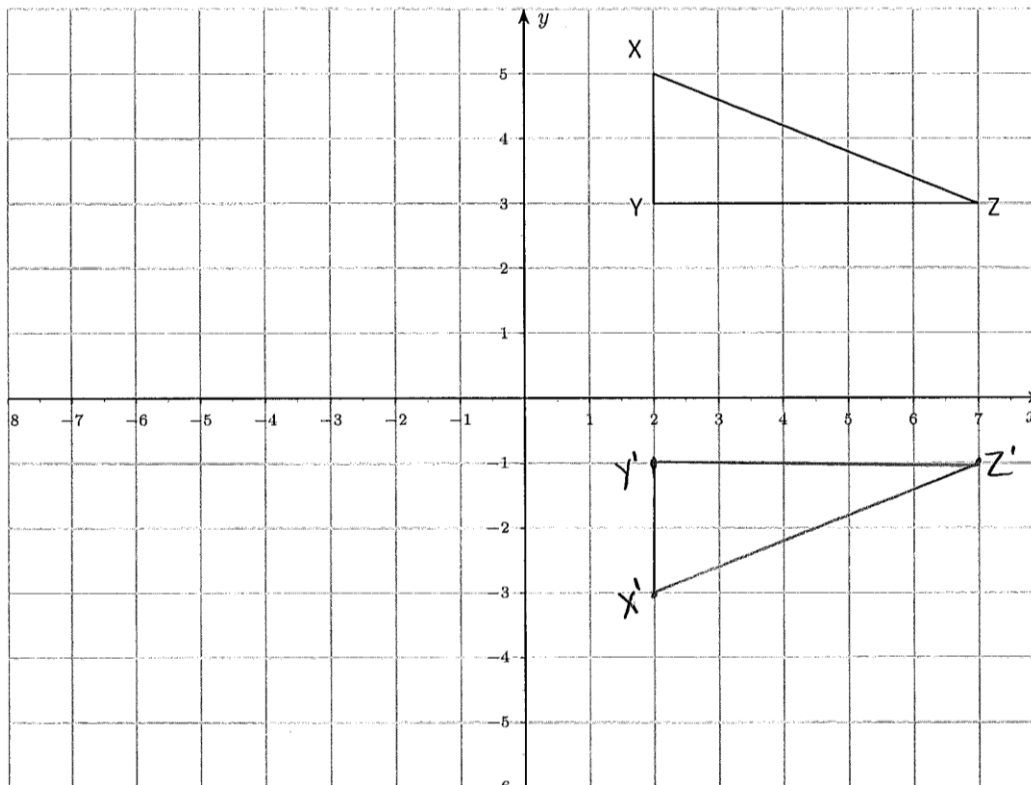
NO, IF I TRANSLATE ALONG VECTOR \overrightarrow{AB} I CAN GET THE LOWER POINT OF FIGURE A TO MAP ONTO THE LOWER LEFT POINT OF FIGURE B (ONE PAIR OF CORRESPONDING POINTS) BUT NO OTHER POINTS OF THE FIGURES COINCIDE.)

- b. Can Figure A be mapped onto Figure B using only reflection? Explain. Use drawings as needed in your explanation.

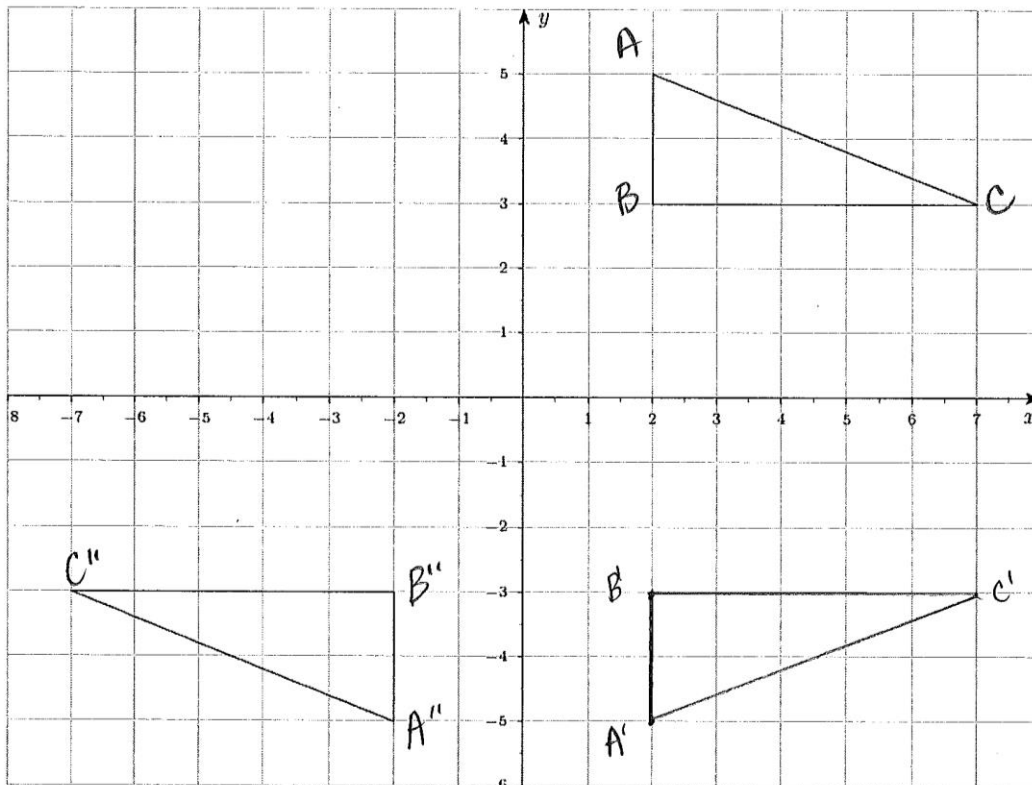
NO, WHEN I CONNECT A POINT OF FIGURE A TO ITS IMAGE ON FIGURE B, THE LINE OF REFLECTION SHOULD BISECT THE SEGMENT. WHEN I CONNECT MIDPOINTS OF $\overline{XX'}$ & $\overline{YY'}$ I GET A POSSIBLE LINE OF REFLECTION, BUT WHEN I CHECK, FIGURE A DOES NOT MAP ONTO FIGURE B.

3. Use the graphs below to answer parts (a) and (b).

- a. Reflect $\triangle XYZ$ over the horizontal line (parallel to the x -axis) through point $(0,1)$. Label the reflected image with $X'Y'Z'$.



- b. One triangle in the diagram below can be mapped onto the other using two reflections. Identify the lines of reflection that would map one onto the other. Can you map one triangle onto the other using just one basic rigid motion? If so, explain.



A REFLECTION ACROSS THE X-AXIS MAPS $\triangle ABC$ TO $\triangle A'B'C'$ AND A REFLECTION ACROSS THE Y-AXIS MAPS $\triangle A'B'C'$ TO $\triangle A''B''C''$.

SINCE $AB \parallel A''B''$, $BC \parallel B''C''$, AND $AC \parallel A''C''$ AND THE LENGTHS $AB = A''B''$, $BC = B''C''$, $AC = A''C''$, THEN A 180° ROTATION ABOUT THE ORIGIN WILL MAP $\triangle ABC$ TO $\triangle A''B''C''$.