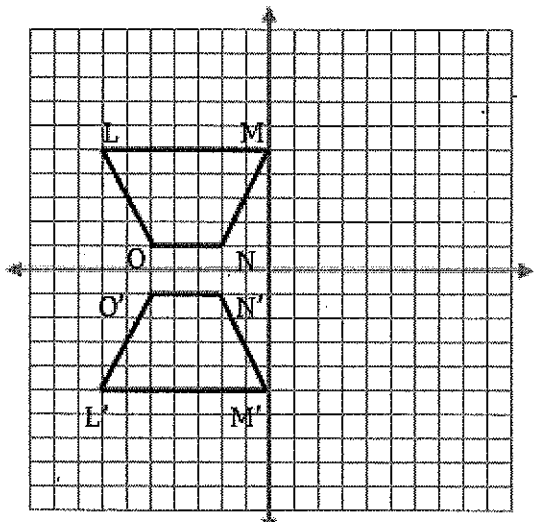


Transformations Test

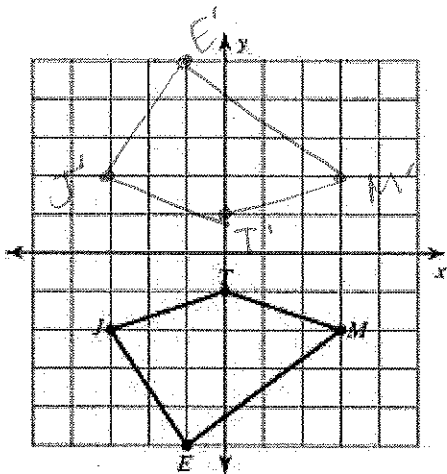


1. What type of transformation was used to create L'M'N'O'?

Reflection

2. Are the figures similar or congruent? How do you know?

Congruent. Reflections do not change size or shape of a figure, so L'M'N'O' should be congruent to LMNO.



3. Draw the image of the figure after it has been reflected over the x axis. Label the new image E'M'J'T'.

4. Which line segment is congruent to \overline{EM} ? $\overline{E'M'}$

5. List the coordinates of EMJT and E'M'J'T'. Be sure to use parentheses and commas when writing a coordinate pair.

E $(-1, -5)$ E' $(-1, 5)$
 M $(3, -2)$ M' $(3, 2)$
 J $(-3, -2)$ J' $(-3, 2)$
 T $(0, -1)$ T' $(0, 1)$

-1 pt for each wrong pair.
 -2 pts. for no parenthesis.

6. What rule can you give for the effect of the reflection over the x axis on the coordinates?

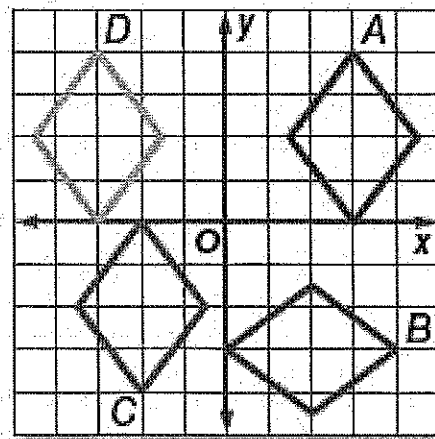
$(x, y) \rightarrow (x, -y)$ or keep x, change sign on y.

Use the picture to the right to answer questions 7-9. For each question, identify the type of congruent transformation shown as reflection, translation, or rotation.

7. A to B Rotation

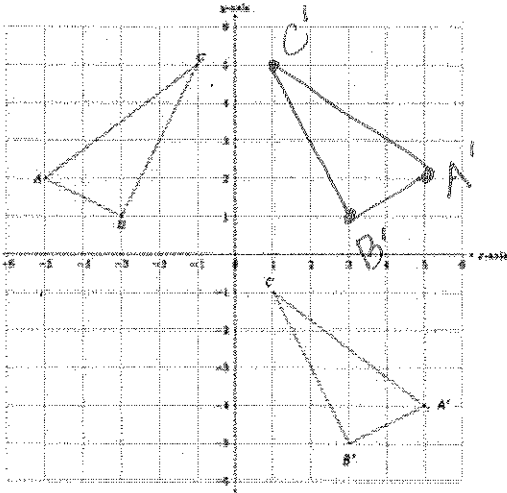
8. D to A Translation or reflection

9. A to C Translation



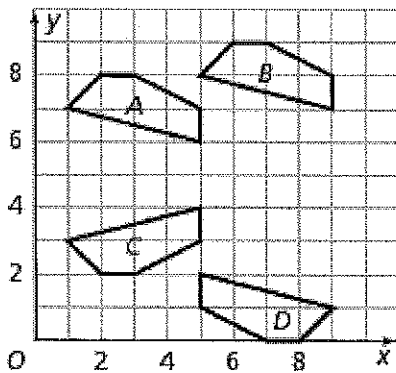
Determine whether each of the following transformations would result in **congruent** or **similar** figures.

10. $\triangle DEF$ is translated 7 units down and then reflected over the y axis. Congruent
11. Polygon EFG is rotated 90° around the origin and dilated with a scale factor of 2. Similar
12. A polygon is reflected across the x-axis and rotated 180° counterclockwise. Congruent
13. A triangle is dilated using a scale factor of $\frac{1}{2}$ and the center of dilation at $(0,0)$. Similar



14. Describe a sequence that shows congruence of the two figures on the graph above. **Be specific about the type of transformation(s), directions, and distances.**

Reflection over y axis & translation vertically -6 units.



15. Which of the transformations above is a reflection of polygon A? C
16. Which of the transformations above is a rotation of polygon A? D
17. Which of the transformations above is a translation of polygon A? B
18. Which of the figures above are congruent to figure A? B, C, D
19. If the point $(3,2)$ were dilated with a scale factor of 2, what would be the new coordinates? $(6,4)$
20. If the point $(0,-2)$ were vertically shifted by -4 , what would be the new coordinates? $(0,-6)$