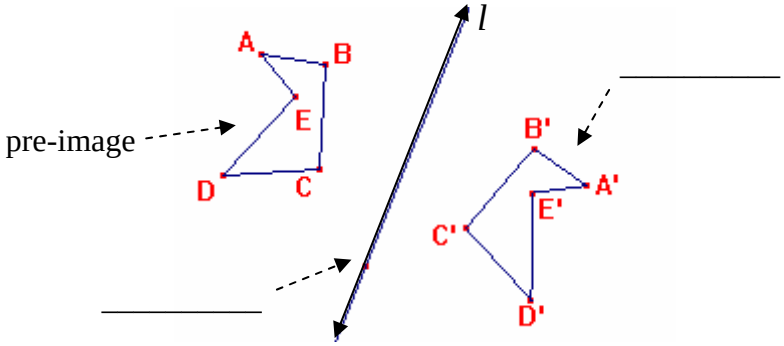
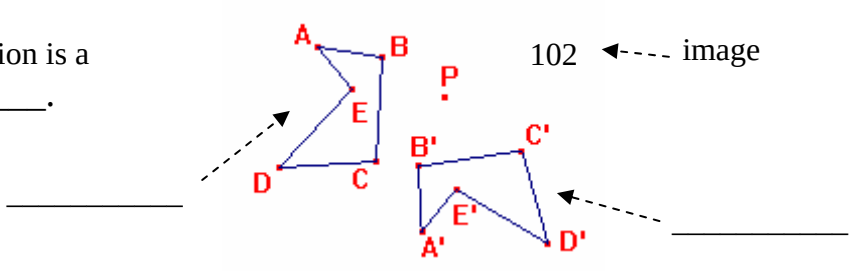
Transformations

Use the word bank at the bottom of the page to fill in each blank.

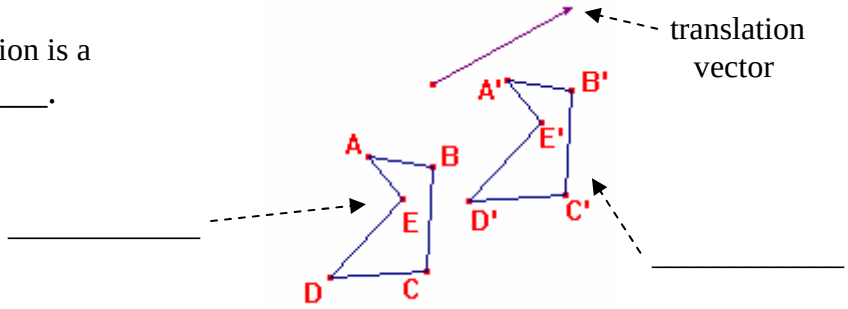
1. This transformation is a _____.



2. This transformation is a _____.



3. This transformation is a _____.



4. Write a careful description of translation, reflection, and rotation. Use the Word Bank to help complete your descriptions.

WORD BANK	
image	preimage or original
rotation	reflection
translation	translation vector
direction	distance
angle of rotation	center of rotation
line of reflection	rigid transformation

Answers:

1. Reflection with a pre-image, image, and line of reflection.
2. Rotation with a pre-image, image, and angle of rotation.
3. Translation with a pre-image, image, and translation vector.
4. Samples:

   A translation takes the original figure, or pre-image, and slides it a given distance and direction. This distance and direction is represented by a translation vector. The resulting figure, or image, is a rigid transformation, or isometry.

   A reflection takes an original figure, or pre-image, and flips it over a line of reflection. The resulting figure, or image, is the same shape and size as the pre-image, making it a rigid transformation. The orientation of the image is the reverse of the pre-image.

   A rotation takes an original figure, or pre-image, and turns it about a point of rotation through a particular angle of rotation, including the direction (clockwise or counter clockwise). The resulting figure, or image, is the same shape and size as the pre-image. This makes it a rigid transformation.