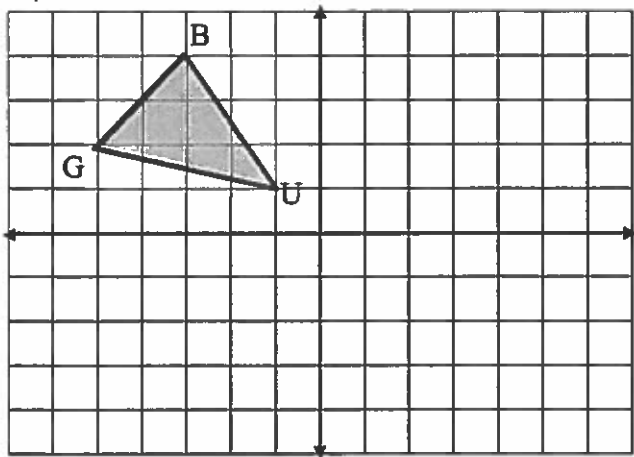
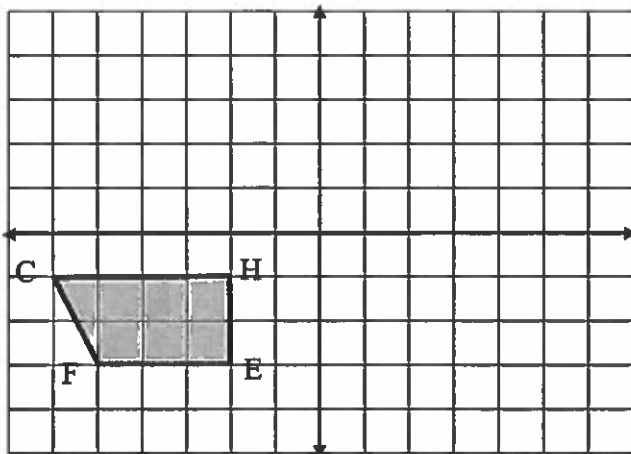


**Directions:** Use patty paper, Geometry software, or any other method to rotate each figure as directed. Make sure to label your image figure correctly.

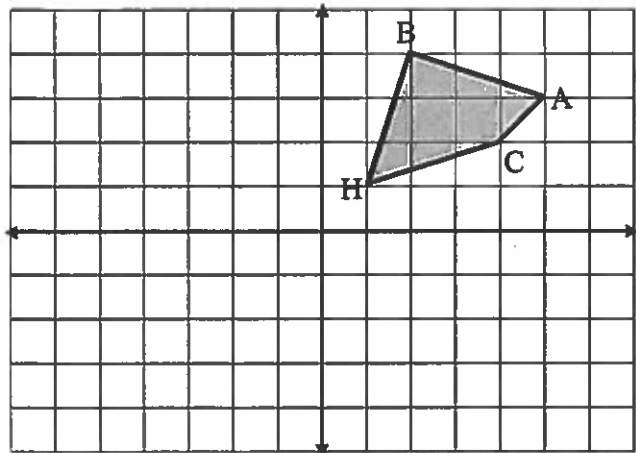
1. Rotate BUG 180° clockwise about the origin.  
 $R_{O,-180^\circ}$



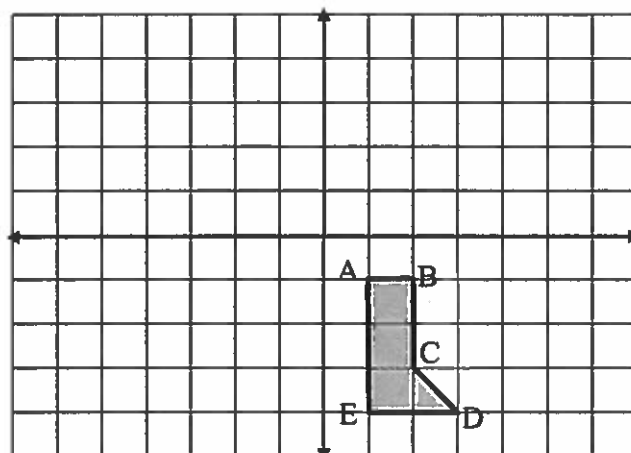
2. Rotate CHEF 180° counter-clockwise about the origin.  $R_{O,180^\circ}$



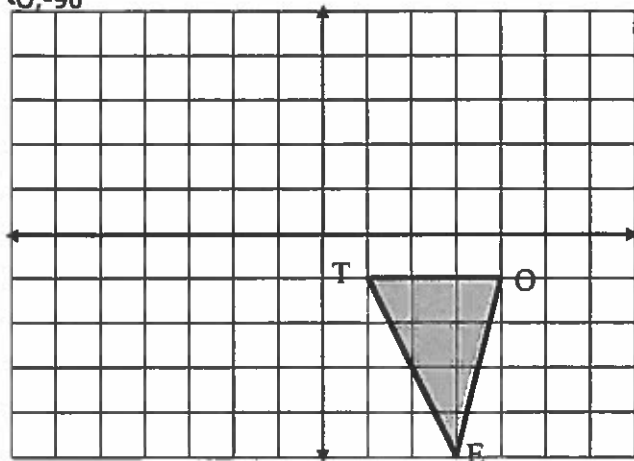
3. Rotate BACH 90° clockwise about the origin.  
 $R_{O,-90^\circ}$



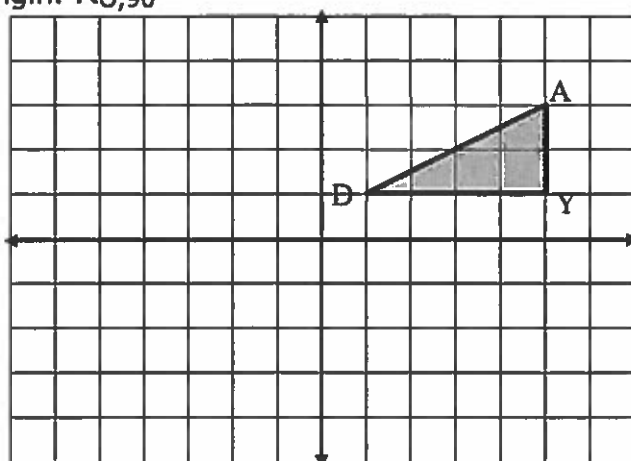
4. Rotate ABCDE 90° counter clockwise about the origin.  $R_{O,90^\circ}$



5. Rotate TOE 90° clockwise about the origin.  
 $R_{O,-90^\circ}$



6 Rotate DAY 90° counter- clockwise about the origin.  $R_{O,90^\circ}$



**Directions:** Refer to some of the problems on the previous page to help you make conjectures about the functions of rotations about the origin.

<p>7. Use the coordinates from #1 to complete a rotation <math>90^\circ</math> clock-wise.          What are the coordinates of the vertices of the original figure?</p> <p>B (____,____) U (____,____) G (____,____)</p> <p>What are the coordinates in its image?</p> <p>B' (____,____) U' (____,____) G' (____,____)</p> <p>List one pair of congruent sides:</p> <p>List one pair of congruent angles:</p> <p>Describe the relationship with a function.</p> <p>(x,y) <math>\rightarrow</math> (____,____)</p>	<p>8. Use the coordinates from #5 to complete a rotation <math>90^\circ</math> counter-clockwise.          What are the coordinates of the vertices of the original figure?</p> <p>T (____,____) O (____,____) E (____,____)</p> <p>What are the coordinates in its image?</p> <p>T' (____,____) O' (____,____) E' (____,____)</p> <p>List two pairs of congruent sides:</p> <p>List two pairs of congruent angles:</p> <p>Describe the relationship with a function.</p> <p>(x,y) <math>\rightarrow</math> (____,____)</p>
<p>9. Use the coordinates from #6 to complete a rotation <math>180^\circ</math> clockwise.          What are the coordinates of the vertices of the original figure?</p> <p>D (____,____) A (____,____) Y (____,____)</p> <p>What are the coordinates in its image?</p> <p>D' (____,____) A' (____,____) Y' (____,____)</p> <p>List three pairs of congruent sides:</p> <p>List three pairs of congruent angles:</p> <p>Describe the relationship with a function.</p> <p>(x,y) <math>\rightarrow</math> (____,____)</p>	<p>10. Bill says if you rotate a figure <math>180^\circ</math> clockwise or counterclockwise you will get the same image. Sally says you won't. Who is correct? Why?</p>