

## BAND FORMATION TRANSFORMATION PROJECT

Goal: Create interesting half-time performance formations for the Maverick band using reflections, rotations, and translations.

Instructions: You will use a coordinate plane as your football field. The y-axis will act as the 50 yard line or midfield. The origin (0,0) is center of the field. The band will be divided into 4 divisions: Brass, Woodwinds, Percussion, and Color Guard. Each division must go through one reflection, rotation, and translation in the order you choose.

Step 1: Each division will be represented by a three or four sided polygon of your choosing. You may assign all of the divisions the same polygon or assign them each a different one. Place each division on the field 1 in their starting position for their half-time performance. Be sure to label the vertices of each polygon and record their starting coordinates on the table under the “starting position” column.

Step 2: Decide how you would like each division to move (transform). Record the type of transformation each division is going to undergo along with the correct notation for the transformation you chose under the “Transformation 1” column.

Step 3: Determine where the vertices of each polygon will end up on the coordinate plane (football field) after its first transformation. Plot them and record the coordinates on the table under the “Transformation 1” column.

Step 4: Choose one color to represent each division. Color in the starting position solid with that color. Outline its position after the transformation in the same color.

Step 5: Your divisions are going to transform again on field 2 and 3. Plot the new starting position (which was the ending position from the previous field). Repeat Steps 2-4, having each division go through a different transformation than before.

Step 6: Cut apart and paste football fields on a large sheet of construction paper or small poster board in order. Make sure that your name and period are on the front. Title your “Band Show” and place it across the top of your display.

Example: How to fill out your table.

<b>BRASS</b>	<b>Transformation 1</b>	<b>Transformation 2</b>	<b>Transformation 3</b>
<i>Starting Position</i>	<i>Type: Rotation</i>	<i>Type: Translation</i>	<i>Type: Reflection</i>
	<i>Notation: R</i>	<i>Notation: T</i>	<i>Notation: r</i>
A (x,y)	A' (x,y)	A'' (x,y)	A''' (x,y)
B (x,y)	B' (x,y)	B'' (x,y)	B''' (x,y)
C (x,y)	C' (x,y)	C'' (x,y)	C''' (x,y)

<b>Brass</b>	<b>Transformation 1</b>	<b>Transformation 2</b>	<b>Transformation 3</b>
<i>Starting Position</i>	<i>Type:</i>	<i>Type:</i>	<i>Type:</i>
	<i>Notation:</i>	<i>Notation:</i>	<i>Notation:</i>

<b>Woodwinds</b>	<b>Transformation 1</b>	<b>Transformation 2</b>	<b>Transformation 3</b>
<i>Starting Position</i>	<i>Type:</i>	<i>Type:</i>	<i>Type:</i>
	<i>Notation:</i>	<i>Notation:</i>	<i>Notation:</i>

<b>Percussion</b>	<b>Transformation 1</b>	<b>Transformation 2</b>	<b>Transformation 3</b>
<i>Starting Position</i>	<i>Type:</i>	<i>Type:</i>	<i>Type:</i>
	<i>Notation:</i>	<i>Notation:</i>	<i>Notation:</i>

<b>Colorguard</b>	<b>Transformation 1</b>	<b>Transformation 2</b>	<b>Transformation 3</b>
<i>Starting Position</i>	<i>Type:</i>	<i>Type:</i>	<i>Type:</i>
	<i>Notation:</i>	<i>Notation:</i>	<i>Notation:</i>