

Christmas Cards with Geometer's Sketchpad

Directions:

- 1) Open up Geometer's Sketchpad.
- 2) Go to graph, grid form, select a grid form. (See pictures below)
- 3) Hide the grid lines by selecting them and then using Ctrl H.
- 4) Students create their initial pattern.
- 5) Students will transform their initial pattern, tessellate, rotate, reflect etc. to create their greeting card. (See below)

Hints for creating the initial pattern.

- If students are using a polar grid, they can create their initial pattern by connecting coordinate points within one small pie piece of the circle. (See pictures below.) If they are using a square or rectangular grid, their initial pattern will be rectangular instead of a section of a circle.
- Then they color in areas within the pie piece or the rectangle by selecting the points (create the points if necessary) which surround the areas which they desire to color. Then go to construct and construct the interior—they can choose the color by right clicking on the newly colored area.
- To transform the pie piece or shape, first double click on the point of rotation (the circle center) or double click on the line of reflection. (For translating, this isn't necessary.) Then select the entire pie piece, go to transform and select rotate or reflect. The student will then give the computer instructions about how to rotate or reflect.
- Transform the initial pattern until the card is completed.

