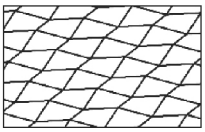
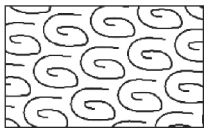
Name: _____ Date: _____

Chapter 12 Gifted and Enrichment

1. A square region is tessellated using three different rectangles—4 by 6, 3 by 8, and 2 by 12.
In the tessellation, the longest rectangle is used the least and the rectangle with the least difference between its length and width is used the most.
The numbers of different rectangles used are three consecutive numbers.
The sum of the consecutive numbers is the area of a rectangle. What are the dimensions of the square region? Show the tessellation.

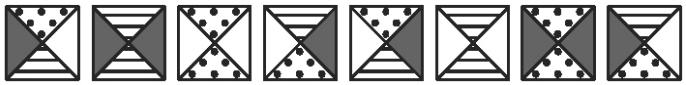
2. Pattern A is a true tessellation but Pattern B is not a true tessellation.

Pattern A  Pattern B 

What is different about them? Why is Pattern B not a tessellation?

3. Create two images that are based on the same pattern. One should be a true tessellation (see #2) and the other should be extremely close, but not a true tessellation. Explain the distinction.

4. Use each tile once to tessellate a 2 by 4 region. Do not rotate the tiles from their given orientation. Make pairs of adjacent sides match (grey with grey, dots with dots, stripes with stripes, and white with white).



5. A square with a triangle shaded in its upper right corner is used to tessellate a 4 by 8 region. 
Once the square is placed, it is translated one unit to the right and rotated about its centre 90° cw. 
That image is translated one unit to the right and rotated about its centre 180° cw.
That image is translated one unit to the right and rotated about its centre 270° cw.
That image is translated one unit to the right and rotated about its centre 90° cw.
That image is translated one unit to the right and rotated about its centre 180° cw.
That image is translated one unit to the right and rotated about its centre 270° cw.
That image is translated one unit to the right and rotated about its centre 90° cw, completing the top row.
That image is translated one unit down and rotated about its centre 180° cw.
That image is translated one unit left and rotated about its centre 270° cw, and so on to fill the 4 by 8 region.
What is the greatest number of triangles that share a common corner? How often does it happen?