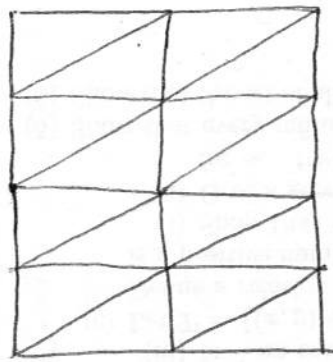
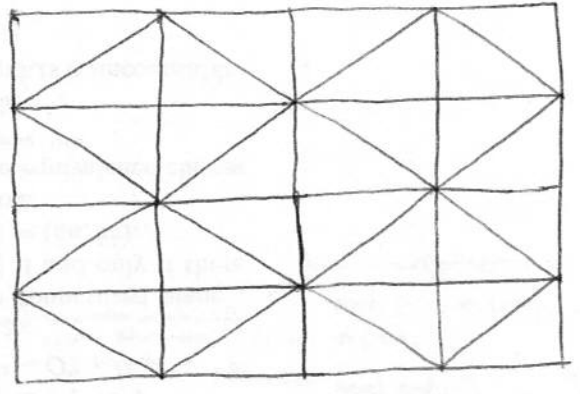


Problem 14 on page 267:

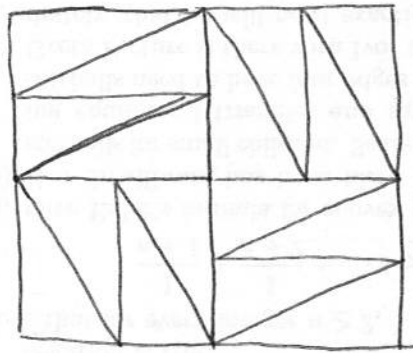
Yes, there <sup>are at least three</sup> ~~two~~ ways to do this:



or



(both of the patterns above could be created using any right triangle; the following pattern uses the  $1:2:\sqrt{5}$  proportions)

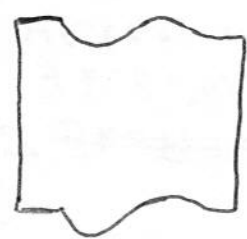
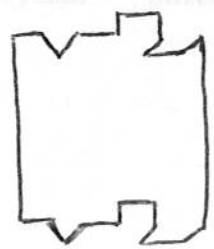
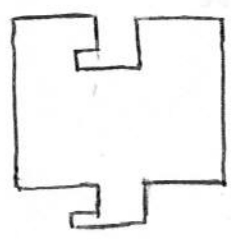


Note: it is not hard to make several variations of this pattern.

Problem 16 on page 267:

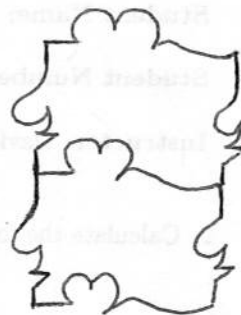
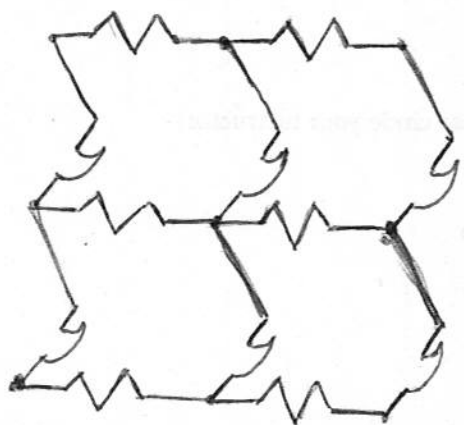
Since the top edge of one tile is supposed to match the bottom edge of the next tile, one needs to change the top and bottom edge in a matching way.

Here are some examples:



Of course we can apply the same types of changes to the left and right sides of the tiles.

Here are some examples of Escher-like tilings:



Extra questions for problem 12:

in the Pinwheel pattern I have drawn several rectangles with different proportions. They can be  $1:2$ ,  ~~$1:4$~~ ,  $1:6$ ,  $1:8$  (with 2 tiles, 4 tiles, 6 tiles, 8 tiles respectively)

They can also be square, with minimally 4 tiles

There are also other proportions, such as  $2:3$  (with minimally 24 tiles)

as I have drawn in there.

The supertile question was not clear, so I marked any reasonable answer as correct. You could answer it by dividing each of the tiles in the smallest version into five tiles  $\rightarrow$

that would give you 5 \* as many as you had at first.

12. **One-answer supers.** Here is a Pinwheel Pattern. For each filled-in tile, outline the surrounding tiles that create the 5-unit super-tile and the 25-unit super-tile of which it is a part. There is only one correct answer.

5  
2

