Exercises: Elementary Geometry
List 1. Equidecomposability in 2D and in 3D.

6. Describe in detail (in a way that allows to make a precise drawing) pieces into which one can decompose the first figure mentioned below so that one can compose out of these pieces the secod mentioned figure:
   (a) a recangle with siedes 2×3 and a square of appropriate size;
   (b) arbitrary two distinct triangles with common base and common height, under the assumption that both angles adjacent to the base in both triangles are acute.
7. Explain (by making realistic drawings) steps by which one can justify equidecomposability of the following pairs of figures:
   (a) a regular triangle and a square;
   (b) a regular hexagon and a regular triangle.
8. Show that any two right prisms having the same height and having polygonal bases of the same area are equidecomposable.
9. Show that any two cuboids (right rectangular prisms) of the same volume are equidecomposable.
10. Use previous two exercises to show that any two right prisms (with polygonal bases) of the same volume are equidecomposable.
11. Show that any parallelepiped is equidecompoisable with a right prism of the same height and having the same (i.e. congruent) shape of the base (an appropriate parallelogram).
12. Use previous exercises to deduce that any two parallelepipeds of the same volume are equidecomposable.