

The thesis represents a collection of solved problems concerned with covering planar shapes (mostly rectangles with integer sides) by tiles known as polyominoes (e.g., dominoes, trominoes, tetrominoes, etc.). In most cases, the goal is to find a tiling or to prove that no such tiling exists. In more difficult problems, the task is to deduce conditions for the rectangle to be tileable by specified polyominoes. The last chapter is devoted to calculating the number of all possible tilings of the specified rectangle.