PROBLEM SET 3
  (additional problems)

Problem 18. Find and prove an explicit formula for the Y-Δ transformation of electrical networks.

Problem 19. For odd m and n, let B_1 be the $m \times n$ rectangle with a 1×1 square in position $(1, 1)$ removed. Also let B_2 be the $m \times n$ rectangle with a 1×1 square in position $(1, k)$ removed, where k is odd. Construct a bijection between domino tilings of B_1 and domino tilings of B_2.

Problem 20. Consider an arrangement of n lines on the plane, where every pair of lines have one intersection point, and no 3 lines pass though the same point. Prove that where will be at least $n - 2$ triangles amoung the regions on which the lines subdivide the plane.