

Math 3 - Discrete math (V3020) Exercises, week 8 (due Oct 28th, 2025)

1. Show that the graph presented in Fig. 1 can be drawn in the plane without crossings.
2. Verify Euler's formula for the complete bipartite graph  $K_{2,7}$ .
3. Show that the graphs presented in Fig. 2 are isomorphic, but that their geometric duals are not isomorphic.
4. Find the chromatic number of the graphs presented in Fig. 3.

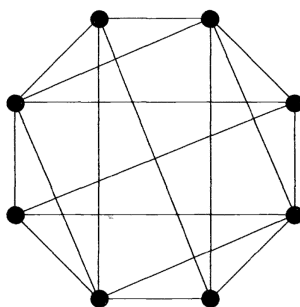


Figure 1: The graph for problem 1.

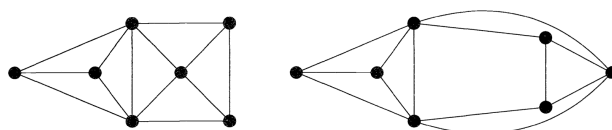


Figure 2: The graphs for problem 3.

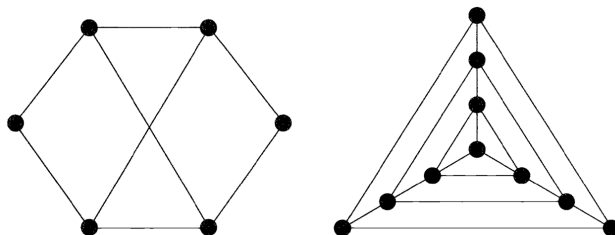


Figure 3: The graphs for problem 4.