

④ In assigning work areas to workers, we want to be sure that if two such workers will interfere with each other, they will get different work areas. How many work areas are required if there are eight workers: A, B, C, D, E, F, G, H, and worker A interferes with workers B, H, F; worker B with A, C, F; worker C with B, D, F; worker D with C, E, F; worker E with D, F, G; worker F with A, B, C, D, E, G, H; worker G with E, F, H and worker H with A, G, F?

- ① Draw a graph G for this problem.
② What is $\chi(G)$? Justify your answer.
③ How many work areas are required?

87/E3/Pg 2

⑤ Give an example of a 2-colorable non-planar graph.

⑥ A graph has k components and e edges. If each component is a tree, how many vertices does the graph have? Why?

⑦ I am thinking of a connected graph G with 6 vertices.

- ① What is the fewest number of edges G can have?
② What is the most number of edges G can have?
Justify your answers.