The Club model

Recall that the Club model $C_4$, given in classroom, was the Club with two or more students whose regulations were given by rules $A1$, $A2$, $A3$ and $A4$, given during class.

Problem 1 (20pts). Write a complete proof of the 2nd. assertion of the Theorem stated in class: Every committee (in $C_4$) has at least two members.

Problem 2 (20pts). Write a complete proof of the 3rd. assertion of the Theorem stated in class: The club $C_4$ has at least 4 students.

Problem 3 (20pts). Assume that the club has incorporated rule $A5$ in its regulations, hence it is now called $C_5$. Prove that $C_5$ must have exactly 4 students.

Incidence geometry

Problem 4 (20pts). Solve Problem 1, p. 47, in the textbook.


Problem 7 (20pts). Solve Problem 5, p. 47, in the textbook.

Problem 8 (20pts). Solve Problem 6, p. 47, in the textbook.


Bonus points (optional problems)

Problem 10 (10pts). Show that the Club $C_5$ must have exactly 6 committees.

Problem 11 (10pts). Solve Problem 4, p. 47, in the textbook.