There are two required problems and one optional problem. By the way, problem B is easier than problem A.

A. Do problem 7.27 (about $MAX\text{-}CUT$).

Don't solve problem 7.29, but do read it. It generalizes as follows. Define

$$COLOR = \{\langle G, k\rangle : G \text{ is an undirected graph that is colorable with } k \text{ colors}\}.$$

You might wonder what practical value such abstract problems have.

B. Formulate the exam-scheduling problem of problem 7.31 as a language A. Prove that $A \leq_p COLOR$.

I wanted to assign problem C below, but I haven't finished it yet myself, so it is optional.

C. For that same language A, prove that $COLOR \leq_p A$.