Political Economy in Macroeconomics -- Exercise 2

1. For the capital taxation problem in section 4.2 of the book, derive the exact solutions for:
   a) the “command optimum” \((i.e., \text{equation } 4.4)\);
   b) the time-inconsistent solution resulting from choosing \(\tau^k, \tau^l, \tau^{k,a}, \text{ and } \tau^{l,a}\)
      independently;
   c) the optimal precommitment solution
   d) the time-consistent solution.

2. For the Barro-Gordon problem in section 4.4, derive equations (4.16), (4.17), and (4.19).