

Exercises:

1. Solve Exercise 23.D.6 in MWG.
2. Solve Exercise 23.E.3 in MWG.
3. Consider a seller who has a single indivisible good for sale which she values by x_0 . Suppose she auctions this good to N potential buyers in a second-price auction with reserve price. Buyers are ex-ante symmetric, and buyer i has a value $\theta_i \in [0, \bar{\theta}]$ for the good, where θ_i is drawn iid from distribution function F with density f .
Show directly that the revenue-maximizing reserve price is independent of N (i.e., do not solve for the optimal auction, but derive directly the optimal reserve price for a second price auction).
(Hint: It might help to look at the solution to Exercise 5 from Tutorial 3.)
4. The second-price auction with reserve price is the optimal auction if agents are ex-ante symmetric. Can you think of a modified second-price auction that is optimal in the general (nonsymmetric) case?
5. Read p. 885-887 in MWG on the expected externality mechanism. Solve Exercise 23.D.2 in MWG.
6. Solve Exercise 23.E.1 in MWG.