

Practice Questions for the Final

Note – these questions show the format of the questions on the final. The final will be comprehensive. All parts of the class have an equal chance of appearing. But the questions below more heavily emphasize the later parts of the class, to make sure that you get to practice those before the final.

1. PERFECT COMPETITION –

The first aim of all economic policy is to achieve efficiency. A necessary condition for efficiency is that $p = mc$.

(a) Prove that a profit maximizing perfectly competitive firm always meets this necessary condition for efficiency.

(b) Assuming that for each firm in a competitive industry $SMC = b+2cq$ when $STC = a+bq+cq^2$. Suppose the cost of each firm is given by $STC = 72+4q +2q^2$. Calculate the profit maximizing output for the firms when $p = 16$.

(c) Calculate the profits or losses of the firms above when $p = 16$?

(e) Calculate the market price at which profits would be zero?

(f) What Law of Production do the firms **costs** described above satisfy?

2. Suppose the wedding dress industry is a **perfectly competitive** constant cost industry. Suppose also that market demand for wedding dresses is described by $Q = 10,000 - 10P$. Suppose individual firms have cost functions of $LTC = 20,000 + 100q + 2q^2$ ($LTC = 0$ if $q = 0$) (so that LMC is $100 + 4q$). What is the market price, how much does each firm produce, and how many firms are there in the industry in the long run?

Price = _____

Firm Output = _____

Number of firms = _____

3. EXTERNALITIES Suppose demand in the perfectly competitive fish market can be described by the equation $P = 10 - (Q_d/2)$, while supply is described by $P = 2 + (Q_s/2)$.

(a) Calculate the following

Equilibrium Price _____

Equilibrium Quantity _____

Consumer Surplus _____

Total Surplus _____

Marginal Cost of Production _____

(you must show the calculations below to get credit)

(b) Suppose there is an external cost of \$2 per fish, associated with environmental damage. Calculate

Socially Efficient Price _____

Socially Efficient Quantity _____

Deadweight Loss at free market price _____

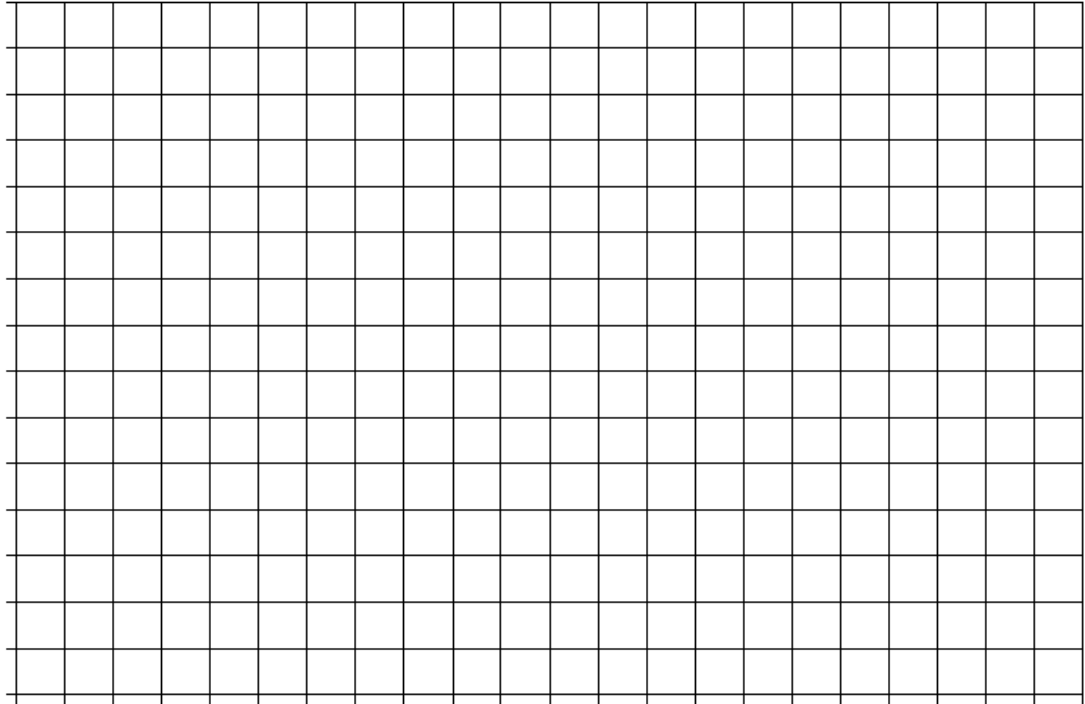
(for credit show working below).

(b) What size tax must be levied to get the socially efficient outcome? What is the deadweight loss associated with this tax?

Tax _____

Deadweight Loss _____

4. Suppose there are 10,000 acres of land in Davis, and the city size is fixed (the citizens have passed a “no-growth” ordinance). The demand for land in the city is described by $\text{Rent} = 40,000 - 2Q$, where Q is the number of acres rented and Rent is the annual rental per acre in \$.



(a) Show above the demand and supply of city land at each rental (with the values at which curves intersect axes). Calculate the market rental rate, consumer and producer surplus (7)

5. Suppose in downtown San Francisco the number of on street parking places is fixed at 20,000. Suppose also that they are metered, and the city has set the charge at \$1 per hour, with a maximum stay of two hours. The market clearing price of such spaces is \$6 per hour.

(a) What is the loss in \$ per hour from this policy? (2)

(b) State three forms that this loss takes (6)

(c) The city finds that by reducing the maximum stay to 20 minutes it can reduce demand for the spaces sufficiently so that there are always now some free spaces. Has it eliminated the losses identified in (a) by this policy? Explain. (3)

(d) Shopkeepers would oppose raising prices to market clearing levels, fearing that it would discourage people coming to shop in San Francisco. Are their fears justified? Explain. (3)

6. The Bridge Too Far has an operating cost per day of \$60,000 and a capacity of 1,000 cars. The demand curve for the bridge per day is $Q_d = 1200 - 10P$. Calculate the efficient price for the bridge if it is operating. Is it efficient to operate the bridge? Explain. (5)

Efficient Price _____

Shut-Down? _____

Explain _____

