

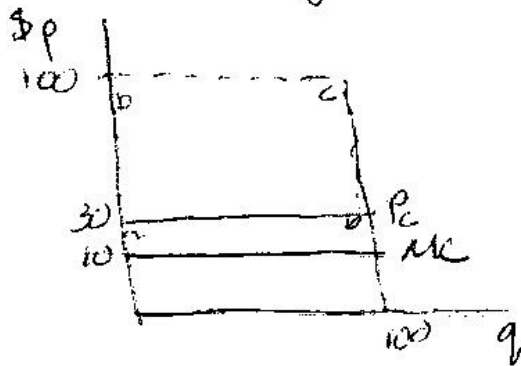
Problem Set 5 Answer key

Part 1

Chapter 11 12, 17, 23, 24 20 (extra credit)

- 12) See 11.11. MR curve coincides with the demand curve. Equilibrium $q = 100$ and $p = 100$.
 S: 0 PS: $(100 - 10) \times 100 = 9000$

If price ceiling = \$30 is imposed



PS is reduced by area of abc and there is no deadweight loss

- 17) Consider small hotel where a jammer cost \$25,000. If expected profit from room phone service is \$A per day per room and the number of rooms is 1 then if $\$365AB > 25,000$, it is profitable to install a jammer.

- 23) Set $MC = MR$ and solve
 $MR = 100 - 2Q$ $MC = 5$
 $5 = 100 - 2Q$ $q = 47.5$ $p = 52.5$

If $(Q) = 100 + 5Q$, the answer doesn't change because MC still = \$5 and profit-maximizing condition is still the same.

24) Set $MC = MR$ and solve

$$MR = \frac{dR}{dQ} = \frac{d}{dQ} (10Q^{-1/2}) \cdot Q = 5Q^{-1/2}$$

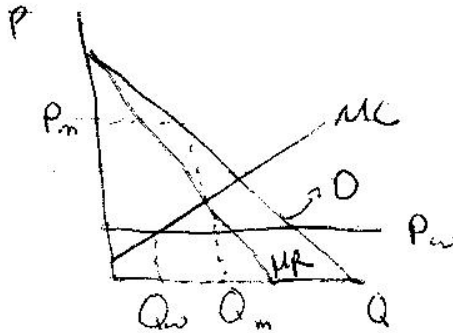
$$MC = 5$$

$$Q^* = 1$$

$$P^* = 10$$

Extra Credit

20) ~~See figure above~~ After tariff removal, former monopoly will sell its products at the world price P_w . The new Q_w is defined by the intersection of its MC and world price. The consumer benefits from the removal of the tariff and former monopoly suffers losses



Part 2

1) Windows, Apple, PG+E were common examples. Market power comes from buying up other firms, innovation, patents, etc. Most cause DWL, except PG+E because they charge lower prices. Other firms might steal market share, but other examples work.

2) Electric companies and mass transit are good ~~ideas~~ exar. Wanting a large consumer base, and government regulation might explain it.