

## Problem Set # 5

1) A market inverse demand function is  $p = 100 - Q$ , where  $Q$  is its quantity, and  $p$  is its price. Two firms have constant marginal costs equal to 10 and compete on quantities (Cournot). Find the market equilibrium and compute the consumer surplus.

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1) A Nash equilibrium occurs when...

- A) players choose their best strategy given the strategies chosen by others.
- B) the efficient allocation of resources is achieved by setting marginal revenue equal to marginal cost.
- C) a monopolist is forced to produce the efficient level of output.
- D) oligopolists cooperate with each other.

2) In the Cournot model, if one firm increases its output...

- A) the market will not clear because now there is a surplus.
- B) the market price drops, reducing the revenues received by the other firms.
- C) the others will kick it out of the oligopoly.
- D) the other firms are unaffected..

3) Suppose two Cournot duopolist firms operate at zero marginal cost. The market demand is  $p = a - bQ$ . Firm 1's best-response function is:

- A)  $= (a - b)/2b$ .
- B)  $= (a - 2b)/2b$ .
- C)  $= a/b$ .
- D)  $= a/2b$ .

4) Assuming a homogeneous product, the Bertrand duopoly equilibrium price is:

- A) the same as the Cournot equilibrium price.
- B) less than the Cournot equilibrium price.
- C) greater than the Cournot equilibrium price.

D) equal to the monopoly price.

5) In a Bertrand model, market power is a function of:

A) marginal cost.

B) the number of firms.

C) price elasticity of supply.

D) product differentiation.