

Problem Set 4

1. Related to our discussion in Chapter 9, we can use the Cournot model to derive an equilibrium industry structure. We will define an equilibrium as that structure in which no firm has an incentive to leave or enter the industry. If a firm leaves the industry it enters an alternative competitive market in which case it earns zero profit. If an additional firm enters the industry when there are already n firms in it, the new firm's profit is determined by the Cournot equilibrium with $n + 1$ firms. For this problem assume that each has the cost function

$$C(q) = 256 + 20q$$

and assume that market demand is described by

$$P = 100 - Q$$

- (a) Find the long run equilibrium number of firms in the industry.
 - (b) What industry output, price, and firm profit levels will characterize the long-run equilibrium?
2. Cabral, 10.8,10.9, 11.1(a-d) .