PROBLEM SET #8: PERFECT COMPETITION

Perfect Competition

Notes: If the total cost function of a firm has the form $TC = a + bq + cq^2$, then the marginal cost of the firm is $MC = b + 2cq$.

1. Suppose Bella's Birkenstocks produces sandals in the perfectly competitive sandal market. The total cost of production in the short run is $STC = 64 + q^2$. The long run total cost LTC is also $64 + q^2$, except that LTC = 0 at q = 0 in the long run (i.e. LTC(0) = 0, LTC(1) = 65, LTC(2) = 69 etc.).

a. What are SAC and SMC?

b. If the price of sandals is $32, what is Bella's production? What is her profit?

c. If the price for sandals were $8, what is Bella's production? What is her profit?

d. What is Bella's short run supply curve?

2. In the short run there are 19 other sandal producers, each with the same costs as Bella.

a. What is industry output at a price of $32?

b. What is the industry short run supply curve?

c. If the demand for sandals is Q = 640 -10P, how many sandals are sold in the short run with 20 producers? What is the profit earned by each company?

d. If the sandal industry is a **constant cost** industry in the long run, what is the long run price and quantity. How many firms are there in the industry?