UNIVERSITY OF ESSEX
DEPARTMENT OF ECONOMICS

Autumn term 2011/12
T Hatton

EC111 Introduction to Economics: Class Exercises 5

1. A firm in a perfectly competitive market, in the short run, faces a price of £20 per unit of its output. It is producing 200 units per week and employing 40 workers. The last unit of output takes 32 per cent of one worker's week to produce. The wage rate is £50 per week and fixed costs (per week) are £1,000.

   (a) Calculate MC, AC, and profit at the present level of output.

   (b) Is the firm maximising its profit?

   (c) Suppose that the price falls to £16 and fixed costs rise to £1,500. Should the firm close down?

2. Consider a perfectly competitive firm with a U shaped long run average cost curve. Suppose that the firm produces an amount q = 200 units. At that quantity the firm's long run average cost is LRAC = 15. Suppose that the market price is P = 20.
   (a) Use diagrams to illustrate why P = 20 cannot be the long run equilibrium price.
   (b) How will the market adjust in the long run and what will the price be? And what assumptions do you need to make?

3. Suppose that the total output produced in a perfectly competitive market in long run equilibrium is 200 units. Suppose that there are n identical firms in the market, each producing an amount $200/n$. The total cost of a single firm in the market is $TC = (200/n)^2$. If the market price is P = 10, find the number of firms in the market in long run equilibrium.