

Econ 101
Exam 4
Spring 2000
Practice Problems

1. Consider two perfectly competitive firms with the following marginal cost functions

$$MC(y_1) = 8 + 5y_1$$

$$MC(y_2) = 8 + 2y_2$$

where y_i is the output of the i th firm? Firms maximize profit by setting price equal to marginal cost.

What is the supply equation for firm 1?

What is the supply equation for firm 2?

What is the industry supply equation for the two firms combined assuming they both produce?

2. Consider a firm with the following cost function.

$$cost(y) = 8 + 8y + 0.5y^2$$

Assume that of the fixed cost of \$8, \$6 is sunk (at least in the short run), and \$2 is avoidable. Assume that in the long run, all costs are avoidable. Marginal cost is given by

$$MC(y) = 8 + y$$

Average cost reaches its minimum at the point where it is equal to marginal cost.

From a long-run perspective, what is the level of y at which average cost is minimized?

How high does the price need to be for the firm to continue operating?