Econ 101 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Summer 2014

Quiz #4

Please write all answers neatly and legibly.

1. Suppose that a perfectly competitive market has 100 consumers of its product and that each consumer’s demand curve is identical to all the other individual demand curves. You are provided the following information about this competitive market:

Individual Demand Curve: P = 100 – 10q where q is the quantity demanded by the individual and P is the price per unit of the good

You are also told that the representative firm in this industry has the following marginal cost and total cost functions:

Total Cost = TC = 20q + (1/6)q2 + 100

Marginal Cost = MC = 20 + (1/3)q where q is the quantity supplied by the individual firm

For this question assume all firms are identical and have the same cost curves. Also, assume there are 10 firms in the industry.

a. (2 points) What is the equation for the market demand curve in slope-intercept form? Show how you found your answer. Use Q as the market quantity and P as the price per unit.

b. (2 points) What is the equation for the market supply curve in slope-intercept form? Show how you found your answer. Use Q as the market quantity and P as the price per unit.

c. (2 points) What is the equilibrium price, P, and equilibrium market quantity, Q, in this market? For full credit show how you found your answer to this question.

d. (2 points) What is the quantity, q, produced by the representative firm? For full credit show how you found your answer to this question.

e. (1 point) Calculate the level of profits that the representative firm is earning. Show all your calculations in finding this answer.

f. (1 point) Holding everything else constant, what do you predict will happen in this industry in the long run? Explain your answer fully with a verbal description rather than a numeric calculation.