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Cooleconomics.com**Principles of Microeconomics****Final Exam**

You have 2.5 hours to complete this 200-point exam. Be sure to show your calculations for partial credit. Graphs must be completely labeled to receive full credit. Good luck!

1. (30 points) Match each economic term below with its correct definition.

_____ Economics	_____ Law of Demand	_____ Capital
_____ Externalities	_____ Profit-Maximizing Rule #1	_____ Perfect Competition
_____ Marginal Product	_____ Marginal Revenue Product	_____ Price Ceiling
_____ Public Good	_____ Price Leadership	_____ Marginal Revenue

- A. The increase in total revenue when an additional unit of a product is sold.
- B. Market structure in which one large firm sets product prices and other firms merely follow it.
- C. A tax that has many negative economic effects.
- D. A non-rival and non-excludable product.
- E. The increase in total revenue resulting from hiring an additional unit of a resource.
- F. Money used to buy stocks and bonds.
- G. A legal maximum price.
- H. Manufactured goods used in the production process.
- I. The study of how individuals and society should best use their limited resources to try to satisfy their unlimited material wants.
- K. A market structure in which many small firms producing identical products compete with each other.
- M. A market type in which many small firms compete with each other, producing similar but slightly differentiated products.
- N. The increase in production when an additional unit of a variable resource is employed.
- O. The study of demand, supply, and markets.
- P. A legal minimum price.
- R. An operating firm will maximize profits by producing where marginal revenue equals marginal cost.
- S. The increase in total revenue when an additional dollar of cost is incurred.
- T. Any good which is provided by government free of charge.
- U. Benefits or costs of an economic activity which accrue to people who are not directly involved in the economic activity.
- W. As the price of a good rises buyers are willing to buy less of it.

2.(30 points) Indicate whether each of the statements below is TRUE or FALSE. Explain in one sentence each why you believe each of the six statements is true or false. Your score depends almost entirely upon your explanation. (Do not repeat the statement in your explanation.)

When a monopolistically competitive firm maximizes profits, it produces a socially efficient amount of output.

Elementary school is a public good.

The Law of Diminishing Returns implies that a firm's marginal costs will eventually rise.

A perfectly competitive firm will maximize profits where price equals marginal cost

If demand for gasoline is price inelastic, then an increase in the price of gasoline will increase sellers' total revenue.

Our society should strive for zero pollution emissions.

3.(15 points) Maxland is a fake economy in which only 2 goods can be produced: Fruitcake and Ham. Maxland has 100 people willing to work. When each worker works her hardest she can produce 5 fruitcakes OR 10 hams.

a) Draw Maxland's Production Possibilities Frontier (nice and big, if you don't mind). Include at least four numbers on your graph.

b) In the year 2001 all workers are working hard, and all are employed, and 50 hams are being produced. Illustrate the year 2001 on your graph above, and include at least two numbers to label your illustration.

c) Economist Zippy predicts that in the year 2020 ,the number of people willing to work will be 10% higher than its current level of 100. Draw the PPF for the year 2020 on your graph above, and include at least two numbers to label your PPF.

4.(15 points) The market for wheat is in equilibrium.

a) Draw the equilibrium on a nice big well-labeled graph.

b) Now the government imposes a price floor on wheat above the equilibrium price.

--illustrate the effects of the price ceiling on your graph above.

--shade in an area on your graph above representing the tax revenue required to buy the surplus created by the price floor.

5. (10 points) When the price of apples was \$3 each, buyers bought 100 of them. When the price was decreased to \$2 each, buyers bought 300 of them.

--Calculate the price elasticity of demand for apples using the "midpoint formula."

6. (10 points) Name and describe two ways that government intervention (in theory) can increase the social efficiency of a laissez-faire economy.

7. (10 points) Cal earns \$18 per hour, and can work a maximum of 80 hours per week. He chooses to work 60 hours.

- a) Calculate Cal's earnings.
- b) Graph Cal's income-leisure constraint. Include at least 4 numbers on your graph.

8. (10 points) The market demand for broccoli is represented by : $Q_d = 100 - 15P$
The market supply of broccoli is represented by $Q_s = 4 + 9P$
Use the above equations to determine the equilibrium price of broccoli. (Hint: it is one of the following: \$1, \$2, \$3 or \$4.) Show your calculations for full credit.

9. (36 points) Illustrate each of the following firms. Label each firm's profit or loss (if any).
a) A loss-minimizing perfectly competitive firm which is shut down.

b) A profit-maximizing oligopoly with a kinked demand curve in the long run.

c) A profit-maximizing monopolistically competitive firm making positive profits.

d) A natural monopoly regulated to break even in the long run.

10. (10 points) Assume that the gasoline market is competitive. Now two events occur simultaneously: reduced driving in the Winter causes drivers to want to buy less gasoline, and increased gasoline imports cause a larger gasoline supply.

Use a fully labeled graph of a competitive market to illustrate the effect of these events on market equilibrium.

11. (12 points) In the short run a brush maker is selling 200 brushes for \$4 each, making a total profit of \$60, with total fixed costs of \$30

Use the above information to fill in the blank spaces below.

Average Fixed Costs _____

Total Costs _____

Total Revenue _____

Average Variable Costs _____

12. (12 points) A tomato farm can sell tomatoes for 50 cents each, and hire workers for \$17.49 each. Here is the workers' marginal product:

# of workers	1	2	3	4	5	6	7	8	9
marginal product	45	55	45	40	35	30	20	10	5

a) How many workers should the firm hire? Explain how you calculated this number.

b) Illustrate the optimal amount of workers on a graph (Numbers aren't needed.)

Have a nice summer.