

Practice Problems

1. The supply function for broccoli is described by the equation $Q = P/6$ where P is the price of broccoli and Q is the amount that will be supplied at price P . The demand function is described by the equation $Q = 330 - 9P$ where P is the price of broccoli and Q is the amount that will be demanded. What is the competitive equilibrium PRICE of broccoli?
 - (a) $P = 43$
 - (b) $P = 72$
 - (c) $P = 36$
 - (d) $P = 33$
 - (e) $P = 75$

2. (This question is a continuation of the previous question.) Consumers of broccoli are trying to persuade Congress that the competitive equilibrium price of broccoli is too high and that Congress should pass a law making it illegal to buy or sell broccoli at a price higher than 30. If this law were passed, at the legal maximum price,
 - (a) supply of broccoli would exceed demand by 55 units.
 - (b) demand for broccoli would exceed supply by 55 units.
 - (c) supply would equal demand at the legal maximum price.
 - (d) there would be both excess demand and excess supply.
 - (e) demand for broccoli and supply of broccoli would both fall by 55 units.

3. A firm can hire any number of workers between 1 and 6. The value of a firm's output is \$12 if it hires one worker, \$20 if it hires 2 workers, \$28 if it hires 3 workers, \$35 if it hires 4 workers, \$41 if it hires 5 workers, and \$46 if it hires 6 workers. The highest wage at which this firm would be willing to hire 5 workers is
 - (a) \$6
 - (b) \$35
 - (c) \$41
 - (d) \$7
 - (e) \$20

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4. A firm knows that its AVERAGE value product per worker per hour will be \$10 if it hires one worker, \$8 if it hires two workers, \$6 if it hires 3 workers, and \$5 if it hires 4 workers. The wage rate is \$3 per hour. In order to maximize its profits, how many workers should this firm hire?
- (a) 0 workers
 - (b) 2 workers
 - (c) 3 workers
 - (d) 4 workers
 - (e) 1 worker
5. The village of Cougarville, WA has 100 houses, all of which need paint. 40 of the homeowners have a Buyer Value of \$300 for having their own houses painted, 30 have Buyer Values of \$220 and 30 have Buyer Values of \$150. Each homeowner in Cougarville gets a positive externality worth \$1 from each house in town that is painted. The supply curve of paint jobs is horizontal at a price of \$325 per house. The 100 homeowners hold an election in which they vote on whether to require all homeowners in Cougarville to paint their houses. Homeowners vote for the proposal if their total profits, including externalities, are greater if the proposal is adopted than if it is not. Otherwise they vote against it. What is the vote in this election?
- (a) 100 votes for the proposal, 0 against it.
 - (b) 70 votes for the proposal, 30 against.
 - (c) 40 votes for the proposal, 60 against.
 - (d) 30 votes for the proposal, 70 against.
 - (e) 0 votes for the proposal, 100 against.
6. Suppose that a \$100 subsidy for painting one's house is introduced in the town of Cougarville, described in the previous question. The cost of this subsidy is financed by a tax such that each of the 100 homeowners pays an equal share of the tax. Then when we take account of painting costs, Buyer Values, subsidy payments, tax payments, and externalities, total profits of all homeowners will be
- (a) \$3,000
 - (b) \$3,150
 - (c) \$0
 - (d) \$2400
 - (e) \$4,850

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7. The price elasticity of demand for strawberries is -0.50 . This month the price of strawberries is \$1 per pound and the total amount of strawberries demanded is 1000 truckloads. Next month the price is expected to rise to \$1.60 per pound. If the demand curve does not shift, how many truckloads can we expect to be demanded next month?
- (a) We cannot tell without knowing how many pounds of strawberries there are in a truckload.
 - (b) 700
 - (c) 1,150
 - (d) 625
 - (e) 900

ANSWER KEY

- 1 C
- 2 B
- 3 A
- 4 B
- 5 C
- 6 A
- 7 B