

# Classes 3-5

## Additional Excercices

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# Chapter 8 Exercise 12

- A number of stores offer film developing as a service to their customers. Suppose that each store offering this service has a cost function  $C(q)=50+0.5q+0.08q^2$  and a marginal cost  $MC=0.5+0.16q$ .
- **a.** If the going rate for developing a roll of film is \$8.50, is the industry in long-run equilibrium? If not, find the price associated with long-run equilibrium.
- **b.** Suppose now that a new technology is developed which will reduce the cost of film developing by 25 percent. Assuming that the industry is in longrun equilibrium, how much would any one store be willing to pay to purchase this new technology?

# Chapter 9 Exercise 1

- From time to time, Congress has raised the minimum wage. Some people suggested that a government subsidy could help employers finance the higher wage. This exercise examines the economics of a minimum wage and wage subsidies. Suppose the supply of low-skilled labor is given by

$$L^S = 10w$$

where  $L^S$  is the quantity of low-skilled labor (in millions of persons employed each year), and  $w$  is the wage rate (in dollars per hour). The demand for labor is given by

$$L^D = 80 - 10w$$

- **a.** What will be the free-market wage rate and employment level? Suppose the government sets a minimum wage of \$5 per hour. How many people would then be employed?
- **b.** Suppose that instead of a minimum wage, the government pays a subsidy of \$1 per hour for each employee. What will the total level of employment be now? What will the equilibrium wage rate be?

# Chapter 9 Exercise 8

- A particular metal is traded in a highly competitive world market at a world price of \$9 per ounce. Unlimited quantities are available for import into the United States at this price. The supply of this metal from domestic U.S. mines and mills can be represented by the equation  $Q^S = (2/3)P$ , where  $Q^S$  is U.S. output in million ounces and  $P$  is the domestic price. The demand for the metal in the United States is  $Q^D = 40 - 2P$ , where  $Q^D$  is the domestic demand in million ounces. In recent years the U.S. industry has been protected by a tariff of \$9 per ounce. Under pressure from other foreign governments, the United States plans to reduce this tariff to zero. Threatened by this change, the U.S. industry is seeking a voluntary restraint agreement that would limit imports into the United States to 8 million ounces per year.
- **a.** Under the \$9 tariff, what was the U.S. domestic price of the metal?
- **b.** If the United States eliminates the tariff and the voluntary restraint agreement is approved, what will be the U.S. domestic price of the metal?