Sample Midterm Questions

Supply and Demand

1. Though sales of homes are down in San Jose, the price continues to rise. Which of the following are possible explanations for these two facts?

   a. Increase in price of homes in San Francisco (San Jose is near San Francisco.)
   b. Increase in price of land in San Jose for commercial property (assume residential property can be converted into commercial property).
   c. Increase in incomes of all San Jose residents.
   d. Relaxed zoning laws that allow more apartments to be built.
   e. None of the above: the price should not rise if sales are down.

2. Which of the following would cause the demand for peanuts to shift to the left:

   a. A rise in the price of peanuts
   b. A blight that destroyed 75% of the peanut harvest
   c. A tariff that doubles the price of imported pistachios
   d. A report claiming the fat content of peanuts causes heart disease

Taxes and Subsidies

3. Consider a country in which education is provided by PRIVATE schools in a competitive market. Demand for elementary school education is perfectly inelastic because all parents view elementary school as essential for children. Currently 95% of all children attend school and tuition is $300 a month. The government is considering providing a tuition subsidy of $150 to parents who send their children to school. What are the predicted effects of the policy?

   a. Private schools will raise tuition by nearly the full amount of the subsidy.
   b. Private schools will cut tuition by nearly the full amount of the subsidy.
   c. Private schools will not change their tuition rates, but the cost of education to families (net of the subsidy) will fall.
   d. We cannot predict the effects without more information.

4. Let Q be the quantity per week of a good and P be the price per unit. Suppose demand is given by
   Demand: \[ P = 120 - 2Q \]
   Supply: \[ P = 20 + 3Q \]

   a. (5 points) Graph these equations. Indicate their intercepts and slope.

   b. (5 points) What is the equilibrium price and quantity?
c. (7 points) Suppose the government imposes a tax of $20 in this market on demanders. What is the new equilibrium quantity? How much do demanders now pay to consume the good?

d. Suppose the government gives a subsidy of $10 in this market on suppliers. What is the new equilibrium quantity? How much do demanders now pay to consume the good?

5. Consider a $4 tax that has been levied on suppliers of automobile tires. A new law is passed requiring the tax to be evenly split between suppliers and consumers, with each group legally responsible for $2 of the tax. What are the predicted consequences of this law change?

a. Suppliers will be better off, consumers will be worse off.
b. The change will have no economic effect on suppliers and demands
c. Consumers will “pass back” their share of the tax so that suppliers will continue to pay $4 per tire.
d. The economic incidence of the tax will be split evenly between suppliers and demanders

**Consumer Theory**

6. Laverne and Shirley both shop at Joe’s Parkway. Laverne buys a lot of cheese and a little chocolate, Shirley buys a lot of chocolate and a little cheese. We know then that

a. Laverne’s marginal value of cheese is higher than Shirley’s
b. Laverne’s marginal value of cheese is lower than Shirley’s
c. Laverne’s marginal value of cheese is the same as Shirley’s
d. We cannot compare their marginal values without knowing their incomes

7. Before setting out for Orleans, Joan went to Weapons-R-Us and bought 200 swords and 200 longbows. She paid 4 ouces of gold for each sword and 1 ounce of gold for each longbow. Draw the budget constraint for Joan. Label her optimal bundle and show a plausible indifference curve. What is her marginal value of sword in terms of longbows at her chosen bundle?

8. Before setting out for Agincourt, Henry went to Weapons-4-You and bought 50 swords and 600 longbows. He paid 4 pounds of silver for each sword and 1 pound of silver for each longbow. Can you determine whether Joan would have preferred Henry’s bundle to her bundle? Can you determine whether Henry would have preferred Joan’s bundle to his bundle? Explain.
9. In 2004, the price of wine was $7 and the price of cheese was $6. In 2005, the price of wine was $9 and the price of cheese was $5. Anne’s income in both years is $40. In 2004, she bought 4 bottles of wine as 2 pounds of cheese. In 2005,

a. Anne is indifferent about the price change
b. Anne is worse off after the price change
c. Anne is better off after the price change
d. We need more information to compare Anne’s status in the two years.

10. Among the following groups—senior executives, junior executives, and students—which is the most likely to have the most and the least price elastic demand for membership in the Association of Business Professionals?

11. The Smith family has an income of $500 per week, which they spend on childcare and all other goods. Childcare costs $10 an hour. The family initially chooses 20 hours of childcare. The government is considering 2 alternative plans to help the Smith family.

**Plan A** is a subsidy. With the subsidy, childcare would cost $4 per hour. The Smith family would choose 50 hours a week of childcare with the subsidy. OR

**Plan B** is a cash grant of $200. The Smith family would choose 25 hours a week of childcare with the cash grant.

a. (5 points) Draw the Smith family’s original budget line and the budget line for each Plan. CLEARLY indicate which line is which. Show the intercepts for EACH budget line.

b. (5 points) Is childcare a normal good or an inferior good? EXPLAIN how you know.

c. (5 points) Compare the cost to the government of the subsidy to the cost of the cash grant. (Only evaluate these costs as they pertain to the Smith family.)

d. (5 points) Which plan does the Smith family prefer? How can you tell?

12. Paul’s wage is $10 an hour. He has 24 hours a day to work or take leisure.

a. Draw his budget constraints, putting leisure on the x-axis.

b. Now Paul’s wage rises to $15 an hour. Draw the new budget constraint for the $15 wage.

c. Paul says, “Now that I make more per hour, I’ve cut back on my hours. I don’t have to work as hard to maintain my standard of living.” In your
diagram, draw indifference curves for each budget constraint that illustrate Paul’s statement.

d. In your diagram, indicate the income and substitution effects of Paul’s wage increase that are consistent with his statement.

e. Is Paul’s income or substitution effect larger? Or do you need more information to say?

**Elasticities and Demand**

13. In an attempt to induce citizens to conserve energy, the government enacted regulations requiring all air conditioners to be more efficient in their use of electricity. After this regulation was implemented, government officials were surprised to discover that people used even more electricity than before. Using the concept of price elasticity, explain how this could happen.

14. When Joe’s income is $200, he purchases 10 six packs of beer. When Joe gets a $40 raise, he purchases 12 six-packs. What is his income elasticity?

15. (3 pts) Max’s **income elasticity** of ham is 1.9 and his **income elasticity** for green eggs is - ½. Which of the following are correct statements? YOU MUST INDICATE ALL CORRECT ANSWERS TO RECEIVE FULL CREDIT.

   a. Ham is a normal good.
   b. Max’s demand for ham is elastic.
   c. Green eggs are an inferior good.
   d. Max’s demand for green eggs is inelastic.
   e. Ham and eggs and substitutes.
   f. Ham and eggs are complements.

**Marginal Reasoning**

16. On exam question 1, you spent 10 minutes and earned 48 points. In the last few seconds that you devoted to it, you earned 4 of the points. You also spend 10 minutes on question 2, and earned 15 points. In the last few seconds you devoted to questions 2, you earned 10 of the points. Did you allocate your time correctly?

17. Is the nonrefundable tuition payment you made to MSU this semester a sunk cost? How would your answer differ if MSU gave a full refund to any student who dropped out during the first 2 months of the semester?

**Production**
18. (8 points) Charlie’s Chocolate Factory faces the following demand and cost schedules, with all quantities listed on a per month basis. Fill in the rest of the chart.

<table>
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<th>Quantity</th>
<th>Price</th>
<th>Total Revenue</th>
<th>Marginal Revenue</th>
<th>Total Cost</th>
<th>Marginal Cost</th>
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a. How many units will the firm produce and at what price?

b. Suppose the firm is subject to a tax of $5 per unit sold. How much does it produce now and at what price?

19. Mike, of Mike’s machines has hired a consultant who informs Mike that since the total revenue of current operations exceeds the total cost, he should consider increasing production of machines. Mike would be best off if he

a. Increases production until total revenue = total cost

b. Increases production until net gains are zero

c. Maintains current level as long as marginal revenue = marginal cost

d. Decrease current level of output if MR is only equal to MC