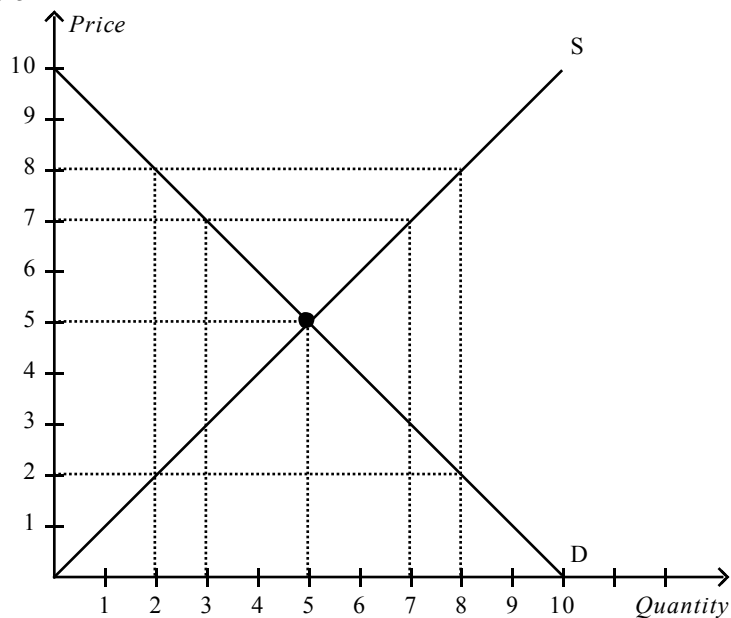


Midterm 1 Part 2: Multiple Choice

2 Points Each

1. Suppose you like to make, from scratch, pies filled with banana cream and vanilla pudding. You notice that the price of bananas has increased. As a result, your demand for vanilla pudding would
- decrease.
 - increase.
 - be unaffected.
 - There is insufficient information given to answer the question.

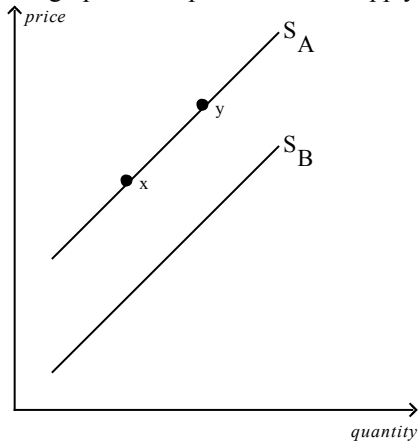
Figure 4-14



2. Refer to Figure 4-14. At a price of
- \$2, there is a surplus of 6 units.
 - \$5, there is a surplus of 25 units.
 - \$5, there is a shortage of \$25.
 - \$7, there is a surplus of 4 units.

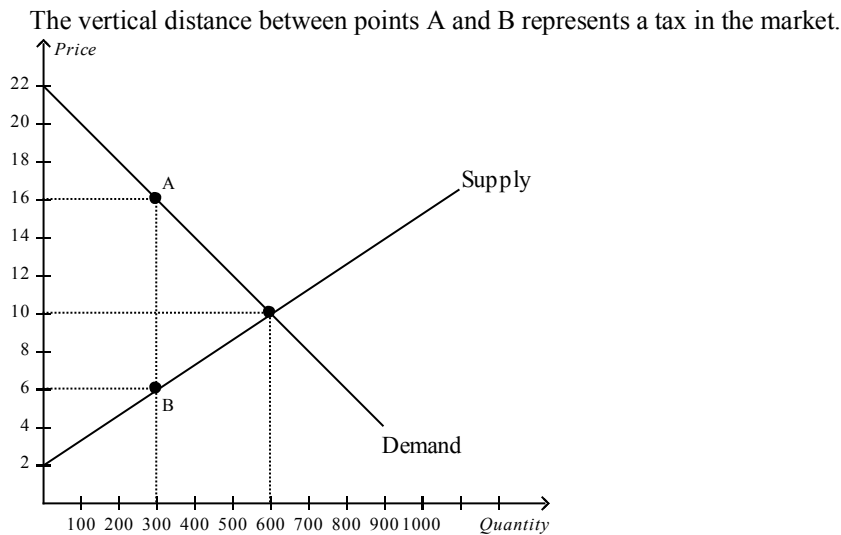
Figure 4-20

The graph below pertains to the supply of paper to colleges and universities.



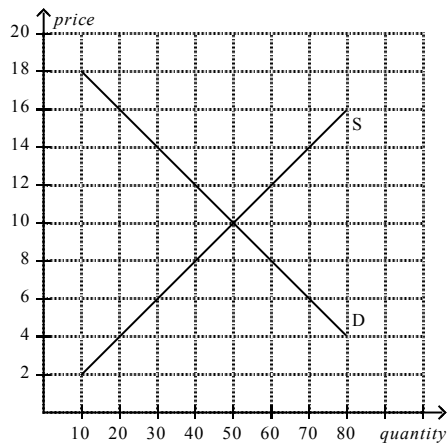
3. **Refer to Figure 4-20.** All else equal, an increase in the price of the pulp used in the paper production process would cause a move from
- x to y.
 - y to x.
 - S_A to S_B .
 - S_B to S_A .
4. **Refer to Figure 4-20.** All else equal, an increase in the use of laptop computers for note-taking would cause a move from
- x to y.
 - y to x.
 - S_A to S_B .
 - S_B to S_A .
5. If the government removes a binding price ceiling from a market, then the price received by sellers will
- decrease, and the quantity sold in the market will decrease.
 - decrease, and the quantity sold in the market will increase.
 - increase, and the quantity sold in the market will decrease.
 - increase, and the quantity sold in the market will increase.

Figure 8-6



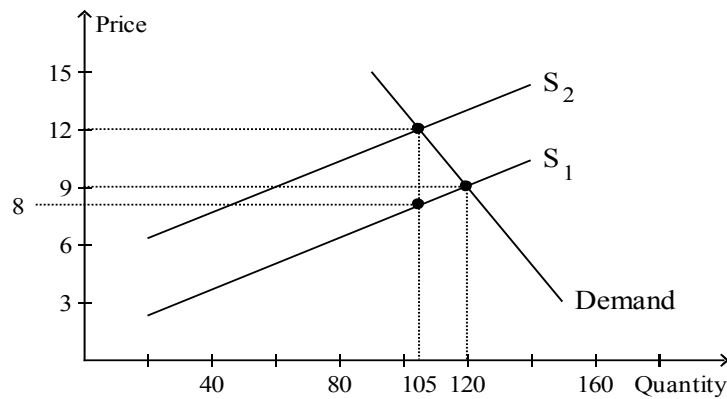
6. Refer to Figure 8-6. Without a tax, the equilibrium price and quantity are
- \$16 and 300.
 - \$10 and 600.
 - \$10 and 300.
 - \$6 and 300.
7. Refer to Figure 8-6. When the tax is imposed in this market, buyers effectively pay what amount of the \$10 tax?
- \$0
 - \$4
 - \$6
 - \$10
8. Refer to Figure 8-6. When the tax is imposed in this market, sellers effectively pay what amount of the \$10 tax?
- \$0
 - \$4
 - \$6
 - \$10
9. Refer to Figure 8-6. When the tax is placed on this good, the quantity sold decreases by
- 300
 - 600
 - 900
 - 1200
10. Refer to Figure 8-6. The tax results in a deadweight loss that amounts to
- \$600.
 - \$900.
 - \$1,500.
 - \$3,000.

Figure 6-6



11. **Refer to Figure 6-6.** If the government imposes a price ceiling of \$8 on this market, then there will be
- no shortage.
 - a shortage of 10 units.
 - a shortage of 20 units.
 - a shortage of 40 units.
12. **Refer to Figure 6-6.** If the government imposes a price ceiling of \$12 on this market, then there will be
- no shortage.
 - a shortage of 10 units.
 - a shortage of 20 units.
 - a shortage of 40 units.
13. When a tax is placed on the sellers of a product, buyers pay
- more, and sellers receive more than they did before the tax.
 - more, and sellers receive less than they did before the tax.
 - less, and sellers receive more than they did before the tax.
 - less, and sellers receive less than they did before the tax.

Figure 6-17



14. **Refer to Figure 6-17.** What is the amount of the tax per unit?
 - a. \$1
 - b. \$2
 - c. \$3
 - d. \$4

15. **Refer to Figure 6-17.** The price that buyers pay after the tax is imposed is
 - a. \$8.00.
 - b. \$9.00.
 - c. \$10.50.
 - d. \$12.00.

16. **Refer to Figure 6-17.** Acme, Inc. is a seller of the good. Acme sells a unit of the good to a buyer and then pays the tax on that unit to the government. Acme is left with how much money?
 - a. \$8.00
 - b. \$9.00
 - c. \$10.50
 - d. \$12.00

17. **Refer to Figure 6-17.** How is the burden of the tax shared between buyers and sellers? Buyers bear
 - a. three-fourths of the burden, and sellers bear one-fourth of the burden.
 - b. two-thirds of the burden, and sellers bear one-third of the burden.
 - c. one-half of the burden, and sellers bear one-half of the burden.
 - d. one-fourth of the burden, and sellers bear three-fourths of the burden.

18. Which of the following is *not* included in GDP?
 - a. carrots grown in your garden and eaten by your family.
 - b. carrots purchased at a farmer's market and eaten by your family.
 - c. carrots purchased at a grocery store and eaten by your family.
 - d. None of the above are included in GDP.

19. A steel company sells some steel to a bicycle company for \$150. The bicycle company uses the steel to produce a bicycle, which it sells for \$250. Taken together, these two transactions contribute
- \$150 to GDP.
 - \$250 to GDP.
 - Between \$250 and \$400, depending on the profit earned by the bike company.
 - \$400 to GDP.
20. Martin, a U.S. citizen, travels to Mexico and buys a newly manufactured motorcycle made there. His purchase is included in
- both Mexican GDP and U.S. GDP.
 - Mexican GDP, but it is not included in U.S. GDP.
 - U.S. GDP, but it is not included in Mexican GDP.
 - neither Mexican GDP nor U.S. GDP.
21. Suppose an economy produces only cheese and fish. In 2010, 20 units of cheese are sold at \$5 each and 8 units of fish are sold at \$50 each. In 2009, the base year, the price of cheese was \$10 per unit and the price of fish was \$75 per unit. For 2010,
- nominal GDP is \$500, real GDP is \$800, and the GDP deflator is 62.5.
 - nominal GDP is \$500, real GDP is \$800, and the GDP deflator is 160.
 - nominal GDP is \$800, real GDP is \$500, and the GDP deflator is 62.5.
 - nominal GDP is \$800, real GDP is \$500, and the GDP deflator is 160.

Table 10-6

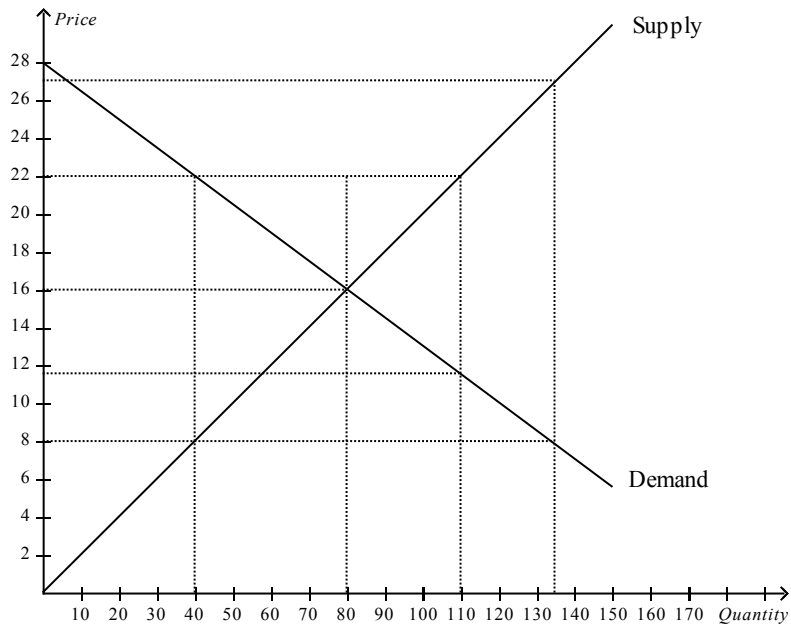
The table below contains data for the country of Batterland, which produces only waffles and pancakes. The base year is 2009.

Prices and Quantities				
Year	Price of Waffles	Quantity of Waffles	Price of Pancakes	Quantity of Pancakes
2008	\$2.00	100	\$1.00	100
2009	\$2.00	120	\$2.00	150
2010	\$2.00	150	\$3.00	200
2011	\$4.00	180	\$3.00	220

22. **Refer to Table 10-6.** In 2008, this country's nominal GDP was
- \$300.
 - \$390.
 - \$400.
 - \$540.

23. **Refer to Table 10-6.** In 2008, this country's real GDP was
- \$300.
 - \$390.
 - \$400.
 - \$540.

Figure 7-18



24. Refer to Figure 7-18. At the equilibrium price, consumer surplus is

- a. \$480.
- b. \$640.
- c. \$1,120.
- d. \$1,280.

25. Refer to Figure 7-18. If the price decreases from \$22 to \$16 due to a shift in the supply curve, consumer surplus increases by

- a. \$120.
- b. \$360.
- c. \$480.
- d. \$600.

26. Refer to Figure 7-18. At the equilibrium price, producer surplus is

- a. \$480.
- b. \$640.
- c. \$1,120.
- d. \$1,280.

H.E. Pennypacker faces a marginal tax rate of 40% (the highest tax bracket) and an average tax rate of 25%. His current income is \$250,000 and he is considering taking a part-time job at the BU dining hall which pays \$10/hour. Questions 27-29 refer to this scenario:

27. If Pennypacker works 50 hours at the dining hall, how much will he owe in taxes from this job?

- a. Nothing
- b. \$125
- c. \$200
- d. \$250

28. If Pennypacker works 100 hours at the dining hall, what will be his after-tax pay from this job?

- a. \$1000
- b. \$750
- c. \$600
- d. \$400

29. If Pennypacker does not work at the dining hall what is his total tax bill on his earnings of \$250,000?

- a. Nothing
- b. \$100,000
- c. \$75,000
- d. \$62,500

30. Which of the following taxes is NOT one of the 4 most significant (in terms of revenue generated in the US)?

- a. Corporate
- b. Land
- c. Payroll
- d. Excise

Bonus (2pts)

H.E. Pennypacker is a fictional character from what TV show?

Midterm 1 Part 3: Applications

1. Suppose you do some research on the labor market and find that:

$$\begin{aligned}wage^s &= \frac{q}{2} + 4 \\wage^d &= 40 - \frac{6q}{4}\end{aligned}$$

There is also a \$4 tax on wages which is levied on workers.

- i) Find the number of workers employed, wage paid by firms, and effective wage recieved by workers.
- ii) Use a diagram to illustrate the effect of the tax on this market. Label the deadweight loss and tax revenue that result from the tax. Identify the amount of the tax (either per unit or share) that workers bear and the amount employers bear.

2. Suppose you do some research on the market for apartments in Boston and find:

$$p^s = 100 + 2q$$

$$p^d = 1300 - q$$

- i) Compute the equilibrium rent and number of apartments in this market.

- ii) Suppose the city implements a rent control policy in which landlords are forbidden to charge more than \$900/month. Will this policy cause a shortage of apartments? If so, how large is the shortage?

- iii) Suppose amazon chooses Boston as the location of its new headquarters. As a result, the demand curve shifts to become $p^d = 1900 - q$. Compute the effects of this demand shift on the equilibrium rent. Is there a shortage of apartments? If so, how large is the shortage?

3. In the market for loanable funds, the supply and demand are given by

$$p^s = 5q/4 - 1$$

$$p^d = 1/2 - 7q/4$$

i) Compute the equilibrium interest rate r and the quantity of funds exchanged. Is there a savings glut? If so, compute its size.

ii) Suppose the economy enters a boom and the supply and demand curves shift to the new equations

$$p^s = 5q/4$$

$$p^d = 1 - 7q/4$$

Compute the new equilibrium rate. What rate will prevail in the market? Is there a savings glut? If so, compute its size.

4. The elasticity of savings with respect to the interest rate is 1.2. The average family currently saves \$1,000 per year and the interest rate is currently .05 (i.e 5%). The government would like to push savings up to \$1,200 per year. Compute the new interest-rate necessary to accomplish this goal. (Use the midpoint formula when calculation percent change).

