

Exam One
PPA 723, Fall 2011
Professor John McPeak

Name: _____

The total quiz is worth 20 points. Each question is worth 2 points, and each sub question is worth an equal share of the two points.

- 1) The demand curve is given to you as $Q=80-20*p$.
 - a. Fill out the following table (use the relatively higher price / relatively lower quantity pair in the elasticity calculation).

| Price | Quantity | Elasticity |
|--------|----------|------------|
| \$1.00 | | ----- |
| \$1.50 | | |
| \$2.00 | | |
| \$2.50 | | |
| \$3.00 | | |

- b. Draw this demand curve with price on the y-axis and quantity on the x-axis. Identify the range over which the demand curve is inelastic and over which it is elastic.

2) Taxes. In all cases, describe the original pre-tax equilibrium price quantity pair, and following imposition of the tax the price paid by consumers, the price received by producers, the size of the tax revenue, and the quantity supplied / demanded.

a. Illustrate on a graph the impact of a specific tax placed on producers.

b. Illustrate on a graph the impact of a specific tax placed on consumers.

c. Illustrate on a graph the impact of an ad valorem tax placed on consumers.

3) You are given that $p=500-4*q$ is the inverse demand curve and $p=100+6*q$ is the inverse supply curve.

a. What is the equilibrium price quantity pair if the market is perfectly competitive?

b. Illustrate and describe the impact of a price floor set at \$304.

c. Describe what it means for a price floor policy to be 'non-binding'.

4) A local ski area is considering raising the price of an annual pass from \$1,000 to \$1,200. If the number of annual passes sold last year at a price of \$1,000 per pass was 20,000 and the best available information suggests that the price elasticity of demand for annual passes is -0.8, answer the following questions.

a. What is the predicted membership level after the price is raised?

b. Compare total revenue for the ski area at the annual pass fee of \$1,000 and at the price of \$1,250. Which is higher?

c. What is the predicted membership in the long run if -0.8 is the short run price elasticity of demand, and the long run price elasticity of demand is -1.5 for the change from \$1,000 to \$1,200?

6) If $p_1 = 10$, $p_2=20$, and $Y=500$

a. Draw the budget constraint.

b. Show how you can derive the price consumption curve for a given consumer's preferences (drawn as you like so long as they obey the properties of indifference curves discussed in class) from the price consumption curve using the example of $p_1 = 5$ all else constant, and $p_1 = 20$ all else constant

c. Show how to derive the individual's demand curve from the graph in (b).

- 7) Circle whether the statement is true or false:
- a. A change in consumers' income causes a shift in the demand curve all else held equal.
TRUE FALSE

 - b. The negative relative price ratio defines the Marginal Rate of Substitution.
TRUE FALSE

 - c. Indifference curves slope downwards as they reflect changes in the consumption bundle that leaves the consumer equally well off.
TRUE FALSE

 - d. In a two good world, both goods must be normal to avoid violating the "more is better than less" assumption about preferences.
TRUE FALSE

 - e. Budget lines shift outward when a consumer's income increases.
TRUE FALSE

 - f. The slope of the indifference curve reflects the willingness of the individual to trade off a given amount of one good to obtain a given amount of another good
TRUE FALSE

9) The price of magic wands is 20% higher this year than at the same time last year. Harry Potter is claiming credit, as his new movie has sold millions of tickets over the past 12 months, drawing a whole new cohort into the world of Harry Potter Magic who want to buy their own wands. His friend Ron says his argument is nonsense. He argues the price of wands went up since labor costs in the wand shop at Howgarts School of Witchcraft and Wizardry, where the wands are made, increased dramatically over the past 12 months. The market for wands is perfectly competitive.

a. Graph Harry's argument on a supply and demand graph.

b. Graph Ron's argument on a supply and demand graph.

c. Which explanation is more consistent with the facts if the quantity sold of wands also increased by 8%? Justify your answer.

d. What is the implied elasticity for ballet shoes and what kind of elasticity is it?

10) Say that you know that the inverse demand curve for snow blowers is: $p=500 - (1/2) \cdot Q_d$ (where p is the price per snowblower and Q_d is the quantity of snowblowers demanded), and the (inverse) supply curve can be expressed in a similar fashion by $p=(1/2) \cdot Q_s - 40$.

a) What is the equilibrium price quantity pair if the market for snowblowers is perfectly competitive?

b) If a specific tax of \$10.00 is put on producers of snowblowers, what will be the new equilibrium quantity, price consumers pay, and price sellers get?

c) What is the incidence of tax on consumers in this case?

d) Illustrate your answers to a and b on a supply and demand graph and label all points and areas of interest.