Name: _____ **Date:** _____ **Period:** _____

Demand Worksheet 2

Part I: Identifying the determinants of demand. You have seen have how an increase in demand is depicted on a graph by a shift in the demand curve.

- Movement along the curve according to the law of demand (if prices rise, quantity demanded decreases; if prices fall quantity demanded increases) reflects changes in **quantity demanded.**
- When quantity demanded changes at every price point it is considered a change in **overall demand** and entire curve will shift.
- When the demand curve shifts upward and to the **right**, this is indicative of an **increase in demand**.
- When the demand curve shifts to the **left**, this is indicative of a **decrease in demand.**
- Factors that result in a change in demand are the **determinants of demand.**

Working as a part of a team of three or four, complete the table below. For each determinant of demand:

1. Indicate whether demand will increase or decrease
2. Provide an explanation as to why.

Determinant of demand	Demand increases or decreases?	Explanation
Population increases		
Population decreases		
Increase in most peoples' income		
Decrease in most peoples' income		
Price of substitute increases		
Price of substitute decreases		
Price of complementary good increases		
Price of complimentary good decreases		
Product becomes a popular fad		
Product now out of fashion		
Expectation of a future fall in the price of a good/service		
Expectation of a future rise in the price of good/service		

Part II: Movement along the curve or a shift in the demand curve? Complete the table below by indicating whether each scenario results in a change in the quantity demanded (movement along the demand curve), or a change in demand (shift in the demand curve). If there is a shift in the demand curve, indicate whether the curve shifts right (increase) or left (decrease).

Scenario	Shift left, Shift right, or movement along curve	Determinant (what caused the shift)
Good: Hand Sanitizer **Headline:** There is an outbreak of the flu. Lines of shoppers seen at Walgreens		
Service: Nail Care Headline: A nail salon cuts the price it charges for manicures and more clients come.		
Good: Burgers Headline: Potato Prices rise to all time high leading to French Fry crisis		
Good: Diapers Headline: The US Census Bureau has announced that there is baby boom in the United States. Consumers flock to Babies R Us		
Good: Bicycles Headline: John's Bicycle shop increases the prices of bicycles and sales decrease.		
Good: Jeans Headline: E Television reports that Beyonce and Justin Beiber will be wearing only denim this year. Consumers flock to stores		
Good: LCD Televisions **Headline:** US economic report that 55% of employers cut wages in 2012.		
Good: Pepsi Cola **Headline:** Coca Cola loses contract with sugar cane producers in Guatemala leading to a 30% increase in prices for all of their beverages.		
Good: Beef **Headline:** Increase in grain prices in June! Cattle ranchers looking to pass extra costs on to consumers by late August.		
Good: Gasoline Headline: Exxon, Chevron, and BP report overproduction at refining facilities; prices to bottom out in summer 2013.		

Create Your Own Headlines: Choose 3 of the determinants of shifting demand and create a headline that would cause a shift right in overall demand (increase), shift left in overall demand (decrease), and one that would be movement along the curve (no change) in overall demand.

Good: **Headline:**		
Good: **Headline:**		
Good: **Headline:**		

Name: _____ Date: _____ Per: _____

PRICE ELASTICITY OF DEMAND WORKSHEET 1

Elasticity of Demand: Measure of how responsive quantity is to a price change. The **higher** the measure then the **more responsive** consumers will be to a change in price according to the Law of Demand. The **lower** the measure then the **less responsive** consumers will be to a change in price according to the Law of Demand

Part I: Elastic or Inelastic
Directions: For the following goods below identify if the good is likely to be price elastic or inelastic, then provide and explanation why.

Good/Service	Elastic/Inelastic	Explanation
Hamburgers		
EpiPen		
Sandwich at Beach Hut Deli		
Fresh Carrots		
Luxury Automobile		
Toothpics		

Part II: Elasticity Graphs
Directions: Below create a graph for each of the Demand Schedules then label the graphs as **Elastic, Inelastic, or Unitary Elastic**

CEMENT

Price ($ per ton)	Quantity (thousands of tons)
50	20
40	22
30	24
20	26
10	28

GRAPH

Elastic, Inelastic or Unitary Elastic

ICE CREAM

Price of Ice Cream ($)	Quantity Demanded (millions)
3.00	5
2.50	15
2.00	25
1.50	35
1.00	45
.50	55

GRAPH

Elastic, Inelastic or Unitary Elastic

SHELLFISH/oz.

Price of Shellfish/oz.	Quantity Demanded (millions)
4.00	20
2.00	30
1.00	45
.50	68

GRAPH

Elastic, Inelastic, or Unitary Elastic

Part II: Calculating Elasticity

1. An Elasticity of 1.0 of greater = _____ demand
2. An Elasticity of exactly 1.0 = _____ demand
3. An Elasticity of between 0 and 1.0 = _____ demand

Use the Elasticity formula to calculate values of Elasticity for all the situations below. Change negatives to positives.

STEP 1: Calculate the **% change in quantity demanded - %ΔQ**
[QDemand2 (New) – QDemand2(Original)] / QDemand1(Original)

STEP 2: Calculate **the % change in price - %ΔP**
[Price2 (New) – Price1(Original)] / Price1(Original)

STEP 3: Calculate the **price elasticity of demand - %ΔQ / %ΔP**
% Change in Quantity Demanded (STEP 1) / % Change in Price (STEP 2)

Quantity		Price		STEP 1	STEP 2	STEP 3
Original Q (Q1)	New Q (Q2)	Original Price (P1)	New Price (P2)	% Change in Q	% Change in Price	Elasticity Calculation
25	30	100	40			
40	70	120	90			

IV. Calculating Elasticity from Demand Schedules

As seen above, in order to calculate elasticity all you need is price points and quantity demanded. This information is listed in any demand schedule. Choose any two price points and quantities in order to calculate elasticity for that price change. However, remember that elasticity changes throughout the demand curve, so you are only calculating for that specific price change.

Directions: Use the information from the Demand Schedules below to calculate elasticity for each product. Use the highlighted prices and quantities for your calculation. **SHOW YOUR WORK!**

CEMENT

Price ($ per ton)	Quantity (thousands of tons)
50	20
40	22
30	24
P1- 20	**Q1 -26**
P2 -10	**Q2 -28**

ICE CREAM

Price of Ice Cream ($)	Quantity Demanded (millions)
P1 - 3.00	**Q1 - 5**
P2 - 2.50	**Q2 – 15**
2.00	25
1.50	35
1.00	45
.50	55

SHELL FISH/oz

Price of Shellfish (per lb)	Quantity Demanded (millions)
20	40
10	60
P1 - 5	**Q1 - 90**
P2 - 2.50	**Q2 - 135**
1.25	202

1. Cement Price Elasticity of Demand: _____(Calculation) + _____ (Elastic, Inelastic, Unitary)

2. Ice Cream Price Elasticity of Demand: _____(Calculation) + _____ (Elastic, Inelastic, Unitary)

3. Shellfish Prices Elasticity of Demand: _____(Calculation) + _____ (Elastic, Inelastic, Unitary)

Name: _____ **Date:** _____ **Per:** _____

PRICE ELASTICITY OF DEMAND WORKSHEET 2

Directions: Complete the following price elasticity of demand practice problems. Remember to SHOW YOUR WORK on all calculation problems.

1. For each of the following pairs of goods, circle which good you expect to have **higher price elasticity of demand** and why.
   a) Required textbooks or mystery novels.
   Explanation:

   b) Beethoven recordings or classical music recordings in general.
   Explanation:

   c) Gasoline during the next six months or gasoline during the next five years.
   Explanation:

2. Suppose vacationers and business travelers have the following demand for airline tickets from New York to Boston

Price	Quantity Demanded (Business Travelers)	Quantity Demanded (Vacationers)
150	2100	1000
200	2000	800
250	1900	600
300	1800	400

As the price of tickets drops from $250 to $200, **calculate the price elasticity of demand** for business travelers and the price elasticity of demand for vacationers?

a) Business Travelors: _____ Elasitc, Inelastic or Unitary? _____

b) Vactioners: _____ Elastic, Inelastic or Unitary? _____

Why might vacationers have a different elasticity than business travelers?

3. Two drivers - Tom and Jerry - each drive up to a gas station. Before looking at the price, each places an order. Tom says, "I'd like 10 gallons of gas." Jerry says, "I'd like $10.00 of gas." What is each driver's price elasticity of demand?
   a. Tom: _____ Why?
   b. Jerry: _____ Why?

4. Consider a new Public Policy aimed at healthy eating
   a) Studies indicate that the price elasticity of demand for potato chips is about 1.0 If a bag of potato chips currently costs $1.00 and the government wants to reduce potato chip consumption by 20 percent, by how much should it tax (increase price) the product? _____ Why?

   b) If the government permanently increases the price of potato chips (through a taxes), how will the price change affect the price elasticity for potato chips over time? Explain.

   c) Studies also find that teenagers have a higher price elasticity of demand on potato chips than do adults. Why might this be true?

5. Suppose two consumers have the following demand for cigarettes (measured in cigarettes per week):

Price	QDemanded (Consumer A)	QDemanded (Consumer B)
$2.00	154	210
2.50	147	175
3.00	140	140
3.50	133	105

Jerry is 16 years old and is experimenting with cigarettes. Jerry's not addicted yet, but when he doesn't have anything better to do, he enjoys getting with friends and smoking. Aunt Betty has been smoking for years. She doesn't really enjoy smoking anymore, but she's addicted and has trouble stopping. According to your knowledge of elasticity, who is probably Consumer A and who is probably Consumer B

Consumer A: _____ Why?
Consumer B: _____ Why?

6. You friend Jenny owns a Bagel shop. She has noticed that when she changes prices she sees a change in the amount she sells. You think to yourself, as an awesome Econ student, "duh, that's the law of demand." Since, she knows that you are a smart student she poses the following plan to you. She says that when she reduces her prices on bagels from **$5.00 to $4.00** she increases her sales from **100 bagels a day to 300 bagels** a day. That's a lot more bagels sold. She wants to sell a lot of bagels so she thinks well why don't test out different prices. So she lowers the price again from **$4.00 to $3.00 and sells 500 bagels**. Then she lowers the price again from $3.00 to $2.00 and sells 700 bagels. Finally she lowers the price from **$2.00 to $1.00 and sells 1000 bagels.** "Great" she says and is thrilled about selling **1000 bagels a day**. You tell her "hold your horses Jenny" this is not a good thing. Explain to Jenny the following:

   a) Her total revenue at $4.00: _____

   b) Her total revenue at $1.00: _____

   c) The best price for her to maximize total revenue: _____

   d) How does her elasticity of demand changed as she decreased her prices:

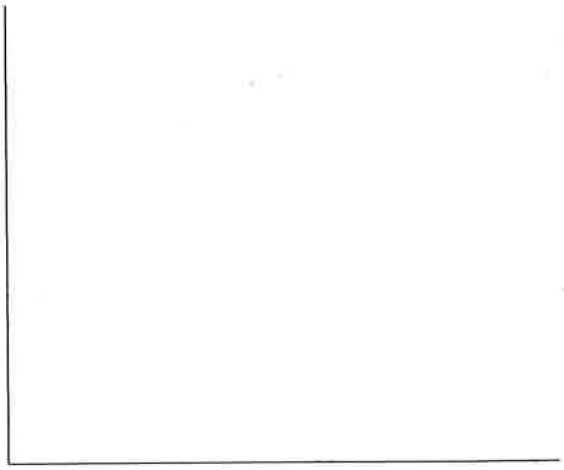
      a. Elasticity at $4.00: _____
      b. Elasticity at $3.00: _____
      c. Elasticity at $2.00: _____
      d. Elasticity at $1.00: _____

   e) Why is does the prices elasticity of demand decrease as she drops prices?

V. Changing Elasticity of Demand Curves

Although it may seems like the elasticity of an item should stay the same since the demand curves and schedules we have been looking at have shown constant inverse relationships ($1 increase in price leads to 5 less sold or any other constant relationship). However, since the equation for elasticity involves percentage changes, the math becomes a bit more complex. To illustrate this changing elasticity along the demand curve, we are going to calculate 3 different elasticities along the same demand curve.

Points	Price of Burgers ($)	Quantity Demanded (millions)
A	35	100
B	30	150
C	25	200
Mid Point	22.5	225
D	20	250
E	15	300
F	10	350



Directions:

Step 1 - Graph the demand schedule

Step 2 - Calculate the elasticities for the following movements along the curve (aka price changes) below:

A→B _____ (calculation) +_____ (elastic, inelastic, unitary elastic)

B→C_____ (calculation) +_____ (elastic, inelastic, unitary elastic)

D→E _____ (calculation) +_____ (elastic, inelastic, unitary elastic)

E→F _____ (calculation) +_____ (elastic, inelastic, unitary elastic)

Step 3 – Label sections of the demand curve (elastic, inelastic, and unitary elastic)

VI. Total Revenue and Demand Elasticity

As discussed in lecture, producers care about elasticity because it reflects to how much price changes will change affect how much of their product will be sold and ultimately how much money they will take in – aka total revenue. Additionally, we discovered that total revenue increases during price changes in the elastic segments of the demand curve (higher prices) and decreases in the inelastic segments of the demand curve (lower prices).

Directions

1. Calculate the **Total Revenue** for each price point.
2. Label whether movement to each price point (A→B, B→C, ect) results in an **Increase** or **Decrease** in Total Revenue
3. **Elastic**, **Inelastic**, or **Unitary** based on your Total Revenue observations

Points	Price of Burgers ($)	Quantity Demanded (millions)	Total Revenue (TR) PxQ	Increase or Decrease in TR	Elastic, Inelastic, or Unitary
A	35	100	3500	NA	NA
B	30	150			
C	25	200			
Mid Point	22.5	225			
D	20	250			
E	15	300			
F	10	350			