

Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 170 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 12-point question should take 6 minutes. I cannot give extra time because some students have a class after your class.

1) (8 points each) Answer **THREE** of the following questions. The regression results on the back were from running a regression to **predict trailer sales**.

A) Would you consider these results to be overall good results? Briefly explain your logic.

B) Which variables, if any, are significant? Explain your logic.

C) How many trailers would you expect to sell if the price was \$30/horse, the price of a trailer was \$100/trailer, and income was \$1000? Show all work and briefly state what you did.

D) **Given the regression results**, would you expect trailers and horses to be substitutes, complements, likely substitutes, likely complements, or not enough information is given? Explain your logic.

2) (10 points) Answer **EITHER** Part A **OR** Part B.

A) What would you expect the cross-price elasticity of demand for combs and brushes to be? Explain your logic.

B) What would you expect the income elasticity of demand for iPods to be? Explain your logic.

3) (10 points) Answer **EITHER** Part A **OR** Part B.

A) Suppose the own-price elasticity of demand was -2. What is the marginal revenue for a firm selling this product? Show all work and explain your logic.

B) Suppose a product's $E_p = -2$ and $E_I = .5$. If on average, people's incomes went up 10% but the firm raised its price 3%, then how much would you expect the firm's sales to change? Briefly explain and show all work.

4) (12 points) Answer **EITHER** Part A **OR** Part B.

A) Suppose your income is \$100/month and you buy 10 pieces of gum, but when your income is \$120/month you buy 13 pieces of gum. Calculate the income elasticity using the point formula showing all work. What does that number tell you about gum? Briefly explain your logic.

B) Suppose at a price of \$8/album download you buy 23 CDs but at a price of \$12/album download you buy 17 CDs. Calculate the cross-price elasticity using the arc formula showing all work. What does that data say about the relationship between downloading albums and buying CDs? Briefly explain your logic.

5) (14 points) Answer **EITHER** Part A **OR** Part B.

A) Would you use a consumer clinic or conduct a survey if you were going to design a new motorcycle helmet? Explain your logic.

B) Would you use a market experiment or conduct a survey if you were to try to find out how many bottles of juice you would sell at different prices? Explain your logic.

6) (30 points) Answer **EITHER** Part A **OR** Part B.

A) Draw an indifference curve/budget constraint diagram for lightbulbs and doors where the price of a door is three times the price of a lightbulb. Explain how you know your diagram shows that three-to-one price ratio. Draw a decrease in the price of doors. Draw an additional budget constraint to enable you to find the income and substitution effects. Explain why the curve(s) moved as drawn. Explain how you found the income and substitution effects. Given your diagram, are lightbulbs and doors substitutes or complements? Explain your logic.

B) Draw an indifference curve/budget constraint diagram for boats and desks. Have the initial budget constraint represent an income of \$360, a price of a boat is of \$4/boat, and a price of desks of \$6/desk. Draw an additional budget constraint for prices of oranges of \$10/boat. Explain how you got the two constraints. Draw an

additional budget constraint to enable you to find the income and substitution effects. Explain why the curve(s) moved as drawn. Explain how you found the income and substitution effects. Given your diagram, are either boats or desks inferior? Explain your logic.

Regression Statistics

Multiple R	0.4168
R Square	0.1737
Adjusted R Square	0.1085
Standard Error	11.35
Observations	42

Analysis of Variance

	<i>df</i>	<i>Sum of Squares</i>	<i>Mean Square</i>	<i>F</i>	<i>Significance F</i>
Regression	3	1029.8	343.2	2.6640	0.0616
Residual	38	4896.8	128.8		
Total	41	5926.6			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Statistic</i>	<i>P-value</i>	<i>Lower 95.00</i>	<i>Upper 95.00</i>
Intercept	215.0754	62.6592	3.4324	0.0013	88.2284	341.9224
Pt	-0.34	1.1407	-0.3038	0.7627	-2.6560	1.9627
Ph	2.00	1.1096	1.8019	0.0789	-0.2468	4.2457
I	-0.11	0.0465	-2.4961	0.0166	-0.2103	-0.0219