

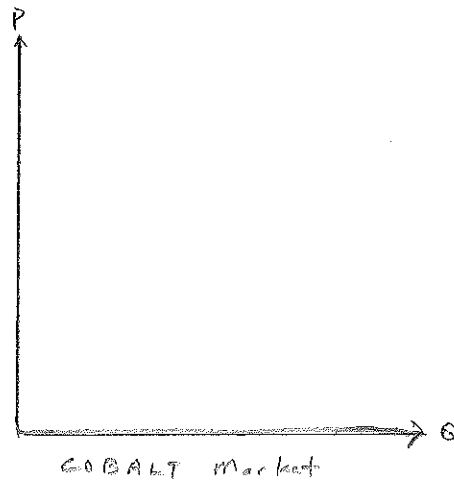
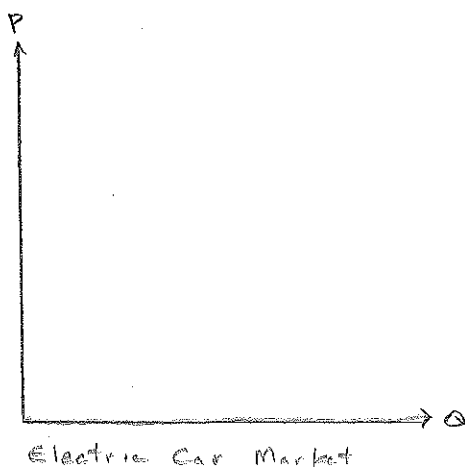
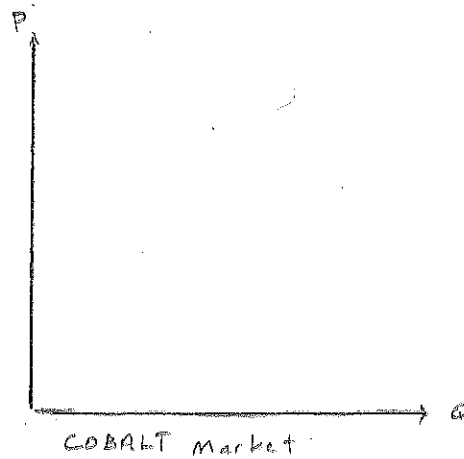
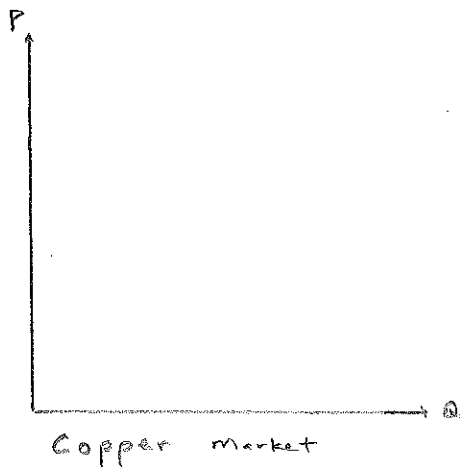
ECO 610 Midterm Exam
July 2019

Name: _____

100 points total. Point values for each question are as indicated. Answer each question in the space provided. General advice: show your work, including any formulas or diagrams that you use in reasoning through your answers.

1. (12 pts.) In the current public discourse about social economic organization, several terms/concepts keep coming up in the discussion. Capitalism, central planning/command, markets, socialism—what do they all mean? As a student of economics, you should have a clear understanding of what each of these terms mean. Explain/define each and discuss how they fit into any analysis or classification scheme of how different countries organize economic activity.

2. (18 pts.) Cobalt is a hard and lustrous metal and is mainly obtained as a byproduct of copper mining. It is a key component in the manufacture of batteries for electric cars. Both the price and quantity exchanged of cobalt has increased in the past several years. Two of your friends who don't understand economics as well as you do have competing explanations. One thinks that it must be because increased construction activity in China has led to a worldwide increase in the demand for copper. The other thinks that it is because several countries have mandated or are considering mandating electric cars, leading to an increase in the demand for electric cars around the world. In the diagrams below, evaluate each of these two competing hypotheses, illustrating and explaining what would happen in each market. Which of your friends' explanation is consistent with the observed changes in the cobalt market?

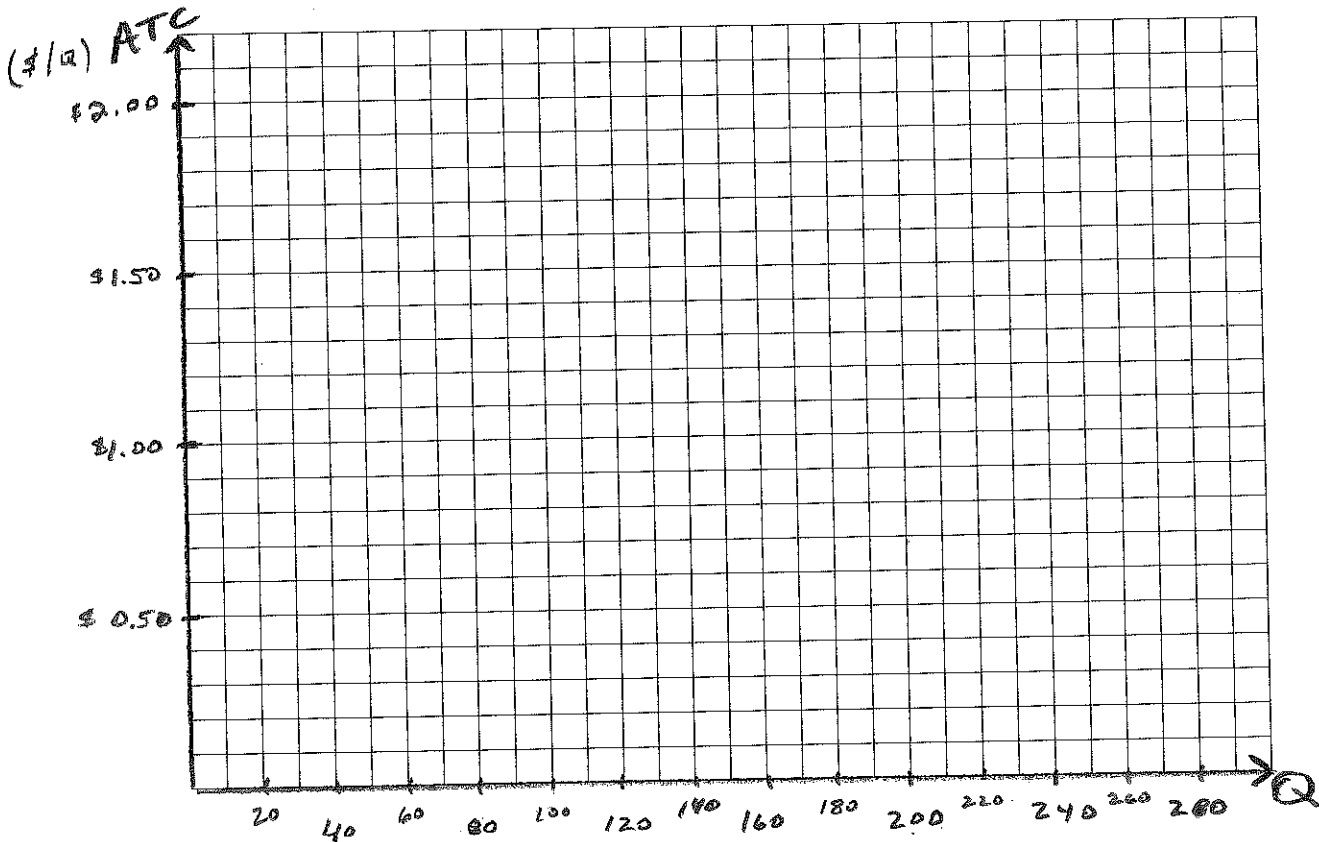


4. (10 pts.) Your cousin can't decide what to do with her life. Having just gotten a smart phone and downloading the Uber and Lyft apps, she explores becoming a contract driver for one of these taxi services. She comes up with the following information:
- If she works full time, she can generate \$100,000 in revenues each year.
 - She would have to buy a suitable car, which would cost her \$25,000.
 - Annual operating expenses for such a car, such as gas, oil, and maintenance, would come to \$15,000.
 - Other operating expenses like taxes, insurance, and licenses, would cost \$5,000.
 - To buy the car, she would have to take the money out of her savings, where it was earning 6%.
 - Wear and tear on the car would cause its market value to decline by \$5000 per year each year she drives for Lyft or Uber.
 - Having just graduated from college last May, she has already turned down several jobs paying \$50,000 per year.
- Help her evaluate the economic profitability of becoming a taxi driver. What should she do?

5. (15 pts.) Your parents are considering opening a pancake restaurant in a beach resort community along the southern Atlantic coast. They ask you to research the production function relationship between the two key inputs, labor and capital, and the number of meals produced per day. The table below contains the results of your research:

		Labor Input				
		1	2	3	4	5
Capital Input	1	40	80	110	130	150
	2	80	120	150	170	180
	3	110	150	180	200	210
	4	130	170	200	220	230
	5	150	180	210	230	240

Per unit-prices for labor and capital are $w = \$40$ and $v = \$40$. For this particular production function, when both input prices are the same, the long-run least-cost combination of inputs occurs where $K = L$. Using this information, graph five points on this firm's long-run average cost curve in the diagram below. If the market is big enough to support several restaurants like the one they are considering, what size restaurant would you recommend that they build? (In other words, what level of K , where K can be thought of as the flow of capital services per hour embodied in different-sized restaurants?) Explain your answer, using concepts of economies and diseconomies of scale and MES.



6. (10 pts.) Your parents decide to choose $K=3$, and build and equip a restaurant of that size. In the short run, they are stuck with $K=3$ in making short-run production decisions. Most of the year they produce and serve 170-190 meals per day, and seem pretty happy. During the coldest winter months, however, when they are only serving slightly more than 100 meals per day, they gripe about their costs. On peak-demand holiday weekends when they are serving over 200 meals per day, they also gripe. In the diagram on the previous page, plot three points on their SRATC curve corresponding to outputs of 110, 180, and 210 and explain their griping, even though they don't regret their decision to build the size restaurant they did.

7. (5pts.) In Somerset, KY and in Elkhart, IN, the local economies suffer when the economy stagnates and household incomes fall. The major manufacturing sector in Somerset is houseboats, and in Elkhart is recreational vehicles. Some local retailers like Dollar Store and Dollar General, do quite well during these economic downturns. Using elasticity concepts, explain why this might be the case.

8. (5 pts.) What do you think will happen to the size of container ships serving east coast ports now that the Panama Canal has recently been widened? Can you think of a reason (or two) why the LRAC associated with container ships is shaped the way that it is?

9. (5 pts.) You have been promoted to be brand manager for Pepsico-Frito/Lay's Rold Gold Pretzels. You know that prices of other products affect sales of Rold Gold Pretzels. What types of numbers would you expect to observe when you calculate cross-price elasticities between Rold Gold Pretzel sales and the prices of Frito-Lay potato chips, Snyder's pretzels, Diet Pepsi, and Pepsico's instant Quaker Oatmeal?