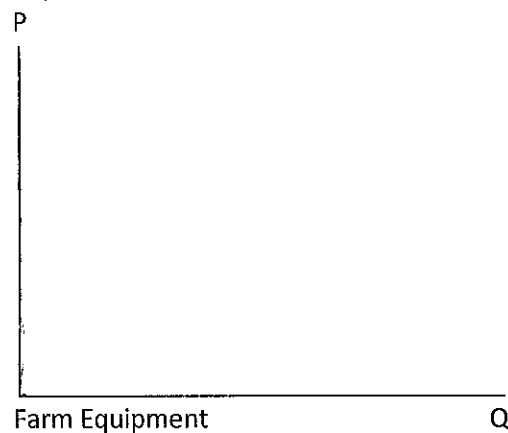
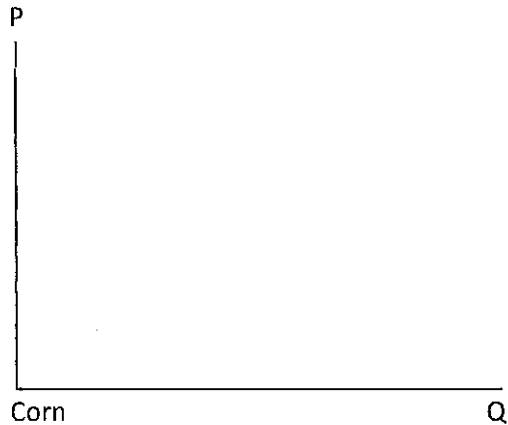


100 points total. Answer each question in the space provided.

1. (15 pts.) Suppose Congress were to eliminate the ethanol program, reversing a program that has had a huge impact on the market for corn since the mid 2000's and significant ripple effects on markets for goods related to corn. Illustrate the impact of terminating the ethanol program on (a) the market for corn; (b) the market for soybeans, which in many cases can be grown on the same land that corn can be grown on; and (c) the market for farm equipment such as tractors and harvesters, used to produce corn. Briefly explain your graphical answers.



2. (15 pts.) Greyhound (GH) and Mega-Bus (MB) are the only two passenger bus companies offering daily service in the Cincinnati-Detroit city-pair market. You collect the following data on the prices charged by each bus company and the average number of passengers riding on each bus:

<u>Month</u>	<u>GH Price</u>	<u>MB Price</u>	<u>GH passengers</u>	<u>MB passengers</u>
June	59	65	70	61
July	59	60	62	75

- a) Calculate the own-price elasticity of demand for bus travel on Mega-Bus. Show the formula you use and the numbers you use to perform the calculation. Briefly interpret your answer.
- b) Calculate the cross-price elasticity between MB's price and GH's passenger load. Show the formula you use and the numbers you use to perform the calculation. Briefly interpret your answer.

3. (10 pts.) Contrast how market systems and centrally planned systems answer the second basic economic question: How?

4. (10 pts.) A few short-answer questions about elasticity (short answer means one sentence should suffice):

If you raise price and demand is inelastic, will total revenue go up or down?

If we calculate the own-price elasticity of demand for Miller Lite Beer, and then we calculate the elasticity of demand for beer in general, in which case will we get a bigger number?

Why does the demand for electricity used for lighting purposes tend to be very inelastic?

The income elasticity of demand for college education has been estimated to be between 3.0 and 3.5. Speaking as an economist, do you consider college education to be a necessity?

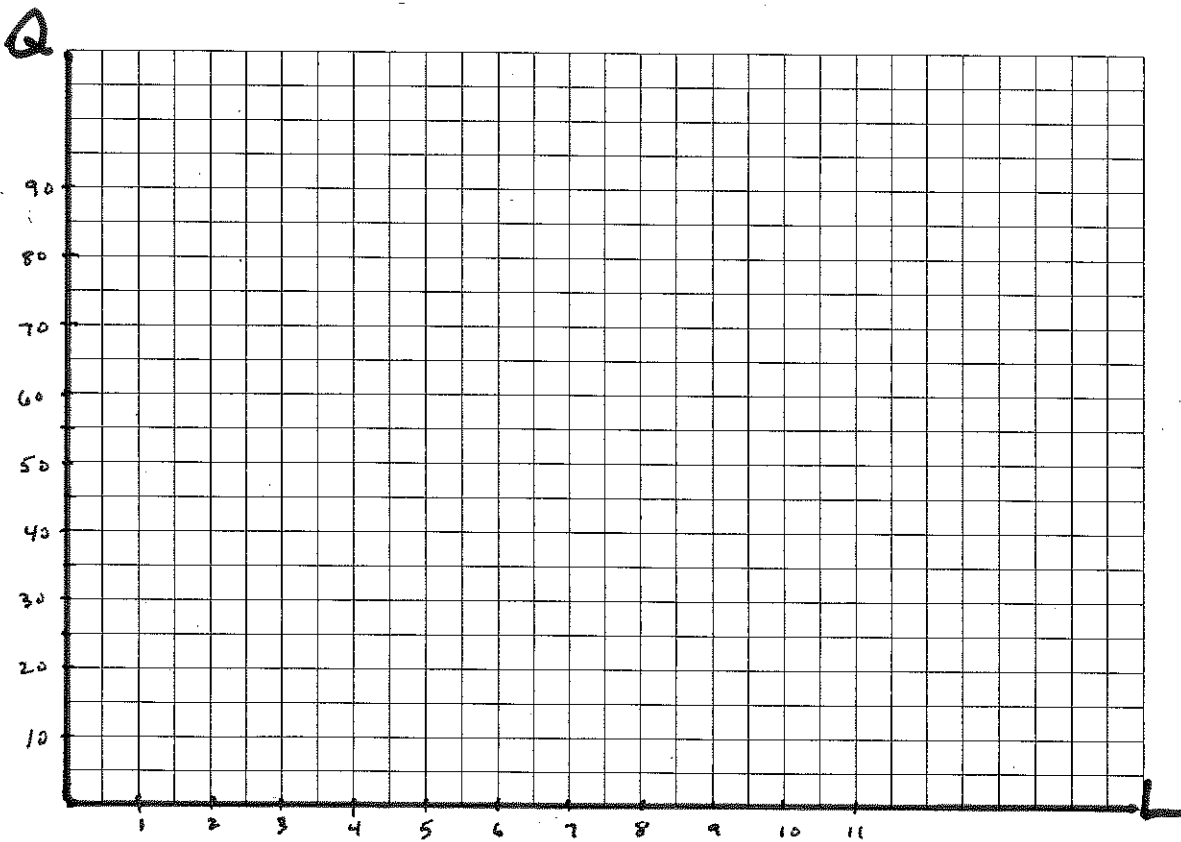
Which number would make the most sense if you were estimating the cross-price elasticity between Gillette Pro Fusion razor handles and Gillette Pro Fusion cartridge blades, -5.0, -0.5, 0.5, or 5.0?

5. (15 pts.) Your brother-in-law is thinking about buying a sandwich shop where he has been working as a part-time employee. The income statement for this business shows annual revenues of \$300,000. Costs include wages for hourly employees (\$70,000), utilities (\$30,000), wholesale cost of food and other supplies (\$80,000), taxes (\$10,000), advertising (\$10,000), and insurance (\$10,000). Your brother-in-law is about to graduate from UK and has several job offers in the \$50,000 per year range. His boss, the current owner and full-time manager, pays herself no salary in this business. She and her husband own the strip mall where her sandwich shop is located, and the space occupied by her shop previously rented for \$12,000 per year. If your brother-in-law buys the business from them, they would rent the space to him at the same rate. They are asking \$100,000 to sell the business to him. (a) What accounting profit would show up on the income statement of this business under its current ownership? (b) Your brother-in-law asks you to help him figure out the "rate of return" he would earn on his \$100,000 if he were to buy this business. Evaluate the economic profitability of the sandwich shop if he were to own and operate it, assuming all the other costs stay the same.

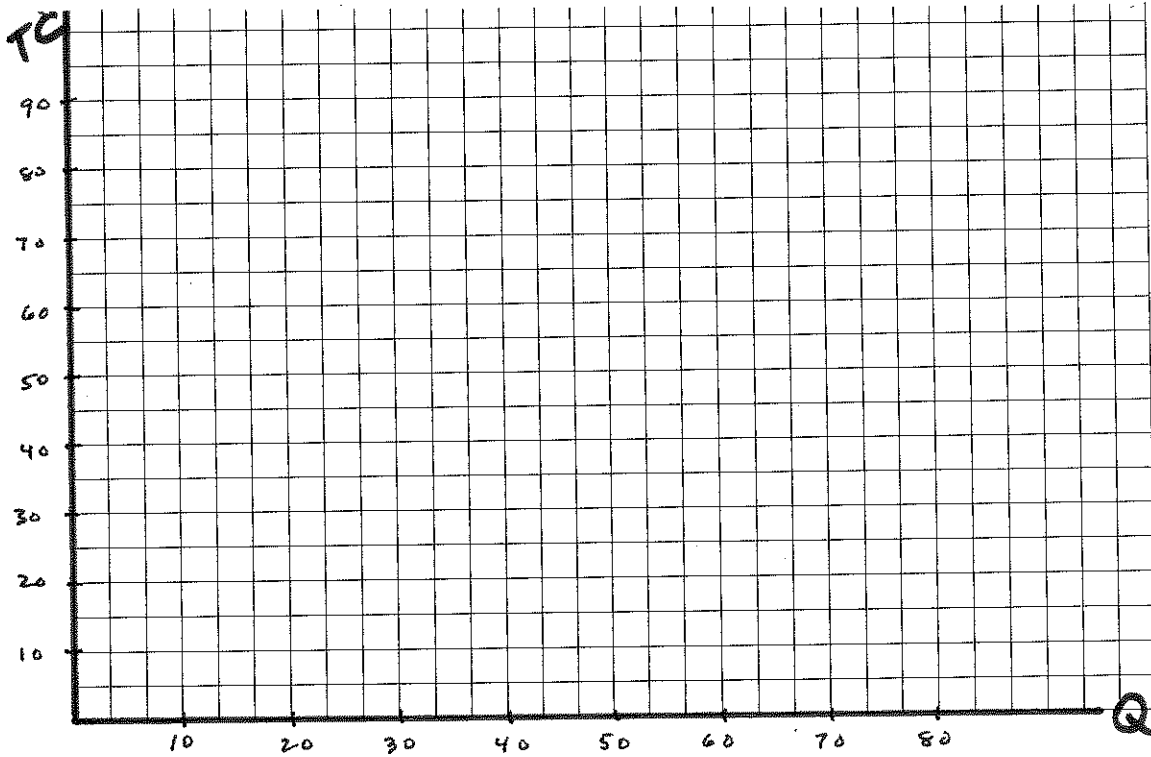
6. (15 pts.) You experiment with different amounts of labor in the fast-food restaurant which you own and manage. You find the following relationship between person-hours of labor (L) and the number of meals per hour produced, given the fixed capital (K) embodied in your current configuration of building, equipment, etc.

➤ L:	0	1	2	3	4	5	6	7	8	9	10
➤ Q:	0	10	25	45	60	70	75	77	78	78	75

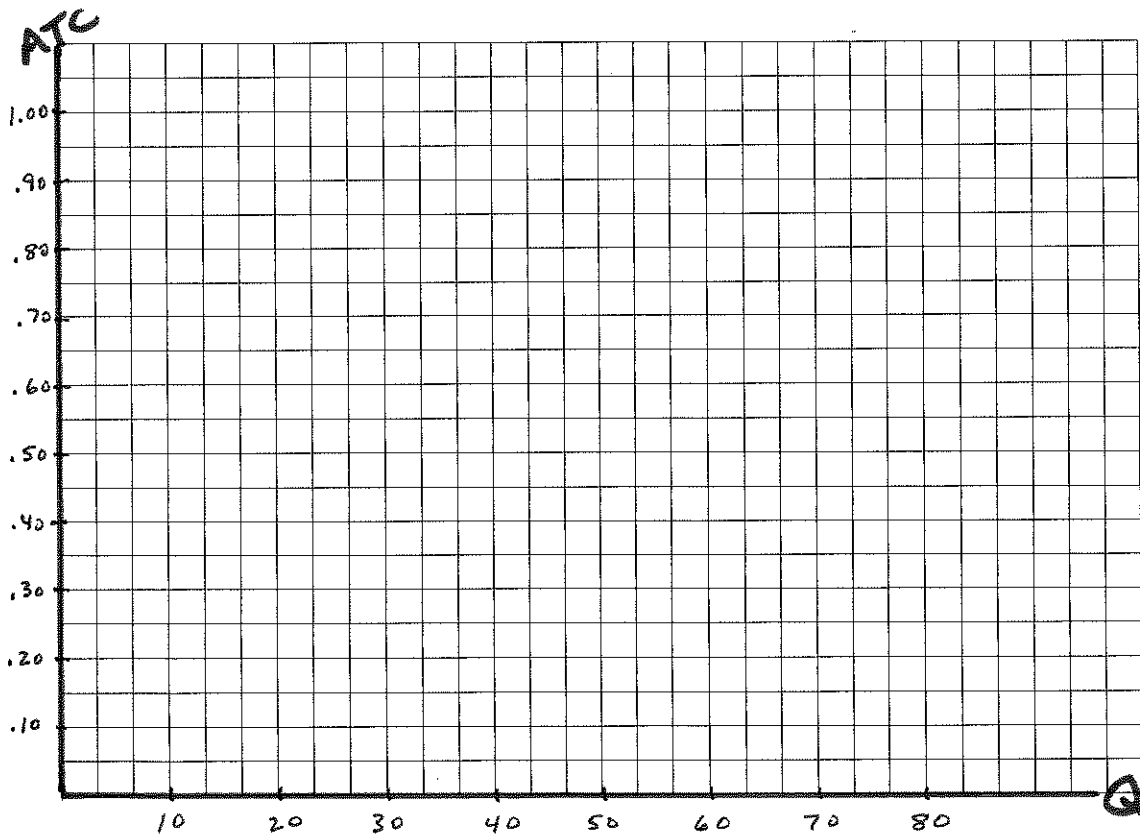
a) Graph the relationship between labor and output, and explain how this experiment illustrates the law of diminishing returns.



- b) Assuming that the wage rate you pay for each additional person-hour is \$10.00, graph the total variable cost curve (TVC) associated with this production process. Show the calculations you perform to get the points on your graph.



- c) Finally, illustrate average variable cost (AVC) curve that are associated with this production process. Show the calculations you perform to get the points on the graph.



7. (5 pts.) Boeing and Airbus both recently announced changes in their approach to their vertical strategies, i.e. the vertical boundaries of their firms. What are they going to do differently going forward, and why?

8. (10 pts.) Pick one product-level reason and one plant-level reason that a firm might experience economies of scale. Briefly explain each one and give an example.

9. (5 pts.) Draw a diagram that explains why Toyota finds it economical to buy rather than make tires for the automobiles it produces.