QUEEN'S UNIVERSITY FINAL EXAMINATION
FACULTY OF ARTS AND SCIENCE
DEPARTMENT OF ECONOMICS

Econ 110 Sections (003, 004) - Barber
December 5th 2018

INSTRUCTIONS TO STUDENTS:
This examination is 3 HOURS in length.
There are two sections to this examination.
Please answer all multiple choice questions on the scantron. Please answer all short answer questions in the booklet provided.

The following aids are allowed:
Casio FX-991 calculator

Put your student number on all pages of all answer booklets, including the front.
The exam has two parts: Part I consists of twenty (20) multiple choice questions. Each question is worth 2 marks for a total of 40 marks. Part II consists of short answer questions, marks are noted in parenthesis. There are a total of 55 marks in Part II. There is NO choice, please answer all the questions. The exam is 180 minutes, please budget your time carefully. GOOD LUCK!

PLEASE NOTE:
Proctors are unable to respond to queries about the interpretation of exam questions.
Do your best to answer exam questions as written.

PART I: Answer the following multiple choice questions (2 Marks each). **WRITE YOUR ANSWERS IN THE SCANTRON SHEET PROVIDED.**

1. Consider the following information about the production of two goods, X and Y, in two countries, A and B:

   - In Country A it takes X_a units of resources to produce one unit of X and Y_a units of resources to produce one unit of Y.
   - In Country B it takes X_b units of resources to produce one unit of X and Y_b units of resources to produce one unit of Y.
   - Assume the amount of resources used to produce the goods in the two countries can be compared unambiguously.

   Country A has a comparative advantage in producing good X if

   (a) (X_a/Y_a) is greater than (X_b/Y_b).
   (b) X_a is less than Y_b.
   (c) $X_a = X_b$.
   (d) (X_a/Y_a) is less than (X_b/Y_b).
   (e) (X_a/X_b) is greater than (Y_a/Y_b).

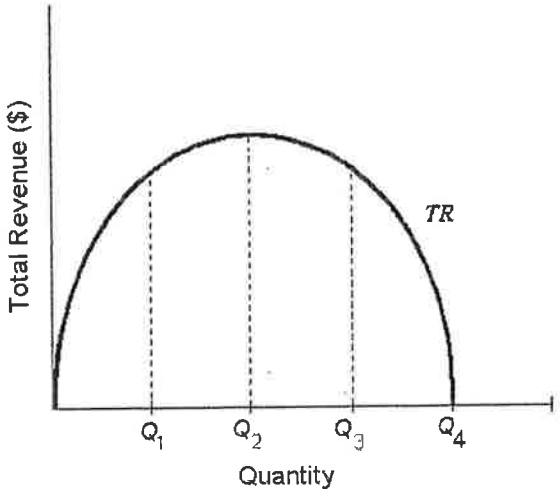
2. If Canada has an absolute advantage in the production of oil relative to the United States, then

   (a) Canada also has a comparative advantage in producing some good other than oil.
   (b) Canada may or may not have a comparative advantage in producing oil relative to the United States.
   (c) the opportunity cost of producing oil is higher in Canada than in the United States.
   (d) the opportunity cost of producing oil is lower in Canada than in the United States.
   (e) Canada also has a comparative advantage in producing oil.

3. Consider a profit-maximizing single-price monopolist that faces a linear demand curve. The firm sets price where the price elasticity of demand is

   (a) zero.
   (b) infinite.
   (c) one.
   (d) less than one.
   (e) greater than one.

The diagram below shows total revenue for a single-price monopolist.



4. Refer to the figure at the bottom of the previous page. The firm's marginal revenue at Q_1 is

   (a) positive and rising.

   (b) positive but falling.

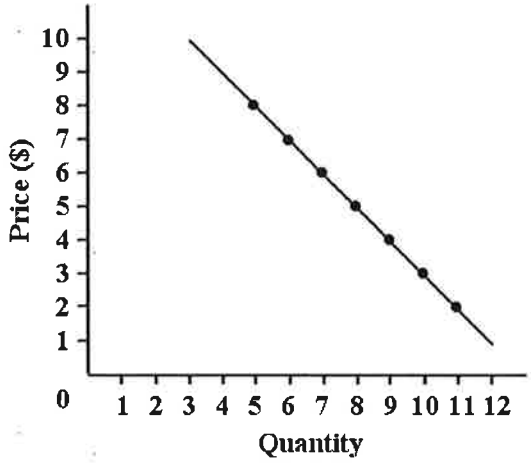
   (c) zero.

   (d) negative and falling.

   (e) not determinable from the diagram.

The figure below shows the demand schedule and demand curve for a product produced by a single-price monopolist.

Price ($)	Quantity Demanded
8	5
7	6
6	7
5	8
4	9
3	10
2	11



5. Refer to the figure above. Suppose this single-price monopolist is initially selling 9 units at $4 each and then reduces the price of the product to $3. By making this change, the firm is giving up revenue of _____ on the original number of units sold and gaining revenue of _____ on the additional units sold. Its marginal revenue is therefore _____. (All figures are dollars)

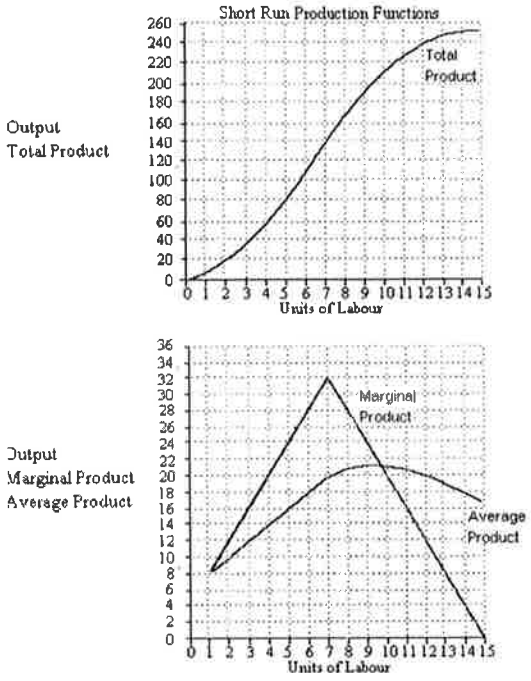
   (a) 3; 9; 6

   (b) 40; 27; -13

   (c) 9; 3; -6

   (d) 30; 36; 6

   (e) 34; 28; -6



6. Refer to the figure above. Total product is increasing at an increasing rate

   (a) from 0 to 32 units of output.

   (b) from 0 to 140 units of output.

   (c) between 140 to 200 units of output.

   (d) between 200 to 250 units of output.

   (e) over the whole production range.

Consider the following total cost schedule for a perfectly competitive firm producing ball-point pens.

Output per period	TVC ($)	TFC ($)
0	0	5
10	2	5
20	3	5
30	6	5
40	10	5
50	15	5

7. Use the information above. Suppose the prevailing market price for this firm's product is $0.14 and the firm is currently producing 20 units of output. This competitive firm wishing to maximize profits would

   (a) decrease output because marginal revenue is greater than marginal cost.

   (b) shut down because price is less than the minimum average variable cost.

   (c) increase output because marginal revenue is greater than marginal cost.

   (d) decrease output because marginal revenue is less than marginal cost.

   (e) increase output because marginal revenue is less than marginal cost.

8. Suppose that the quantity of lemonade demanded falls from 103 000 litres per week to 97 000 litres per week as a result of a 10% increase in its price. The price elasticity of demand for lemonade is therefore

   (a) 0.6.

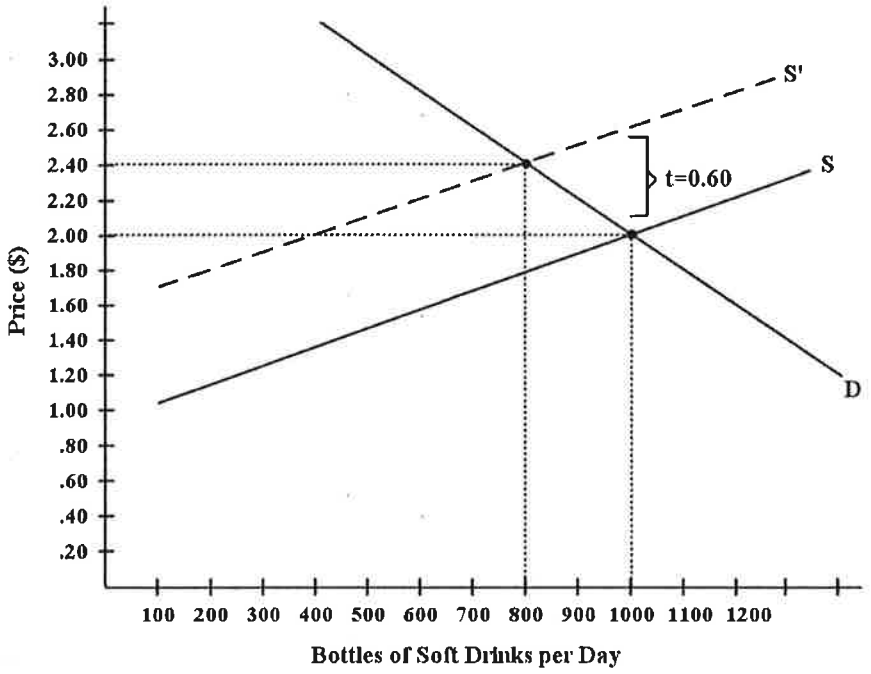
   (b) 6.0.

   (c) 1.03.

   (d) 1.97.

   (e) impossible to compute unless we know the before and after prices.

There have been proposals that a tax be imposed on sugar-laden soft drinks in an attempt to reduce their consumption. Assume for simplicity that all bottled soft drinks are the same size. Suppose the initial market equilibrium is P = $2.00 and Q = 1000.



9. Use the figure above. Suppose the government imposes a tax of $0.60 per soft drink purchased. Which of the following statements most accurately describes the economic incidence of this tax?

   (a) The consumer bears more of the burden because demand is inelastic relative to supply.

   (b) The burden is shared equally between consumer and seller because the slopes of the supply and demand curves are the same.

   (c) The seller bears more of the burden because supply is inelastic relative to demand.

   (d) The seller bears more of the burden because supply is elastic relative to demand.

   (e) The consumer bears more of the burden because demand is elastic relative to supply.

10. Refer to the figure above. Suppose the government imposes a tax of $0.60 per soft drink purchased. Given the change in total expenditure on soft drinks after imposition of the excise tax, what do we know about the price elasticity of demand (η) for soft drinks?

    (a) η is less than 1

    (b) η is equal to 0

    (c) η is greater than 1

    (d) η is equal to 1

    (e) There is not enough information to determine.

11. Steel is an important input to the production of cars. Tires and cars are used together by consumers. What will occur in the market for tires when there is an increase in the price of steel?

    (a) price rises, quantity falls

    (b) price rises, quantity rises

    (c) price falls, quantity falls

    (d) price falls, quantity rises

    (e) no change in price or quantity occurs

12. Suppose a negatively sloped demand curve and a positively sloped supply curve intersect at a price and quantity combination of $100 and 600 units of the good. But suppose that producers actually produce and sell 610 units. What can we correctly say about market efficiency in this case?

    (a) The value placed on the final 10 units of the good by consumers is less than the additional costs associated with their production this market is not efficient.

    (b) This market is efficient because economic surplus is maximized as production and consumption increase simultaneously.

    (c) This market is not efficient because quantity demanded for the good exceeds quantity supplied.

    (d) The value placed on the final 10 units of the good by consumers exceeds the additional costs associated with their production - this market is not efficient.

    (e) The production and consumption of the additional 10 units of the good increases total economic surplus and increases market efficiency.

The table below shows the quantities of toffee bars and bags of cashews that a consumer could consume over a 1-week period.

	Toffee (bars)		Cashews (bags)	
Units	Marginal Utility	Total Utility	Marginal Utility	Total Utility
1	10	10	12	12
2	8	18	10	22
3	5	23	7	29
4	3	26	5	34
5	1	27	2	36
6	0	27	1	37
7	0	27	0	27

13. Use the table above to answer the following question. If the prices of both toffee bars and bags of cashews are $2 and this consumer has $14 per week to spend on these two snacks, what is the maximum total utility achievable?

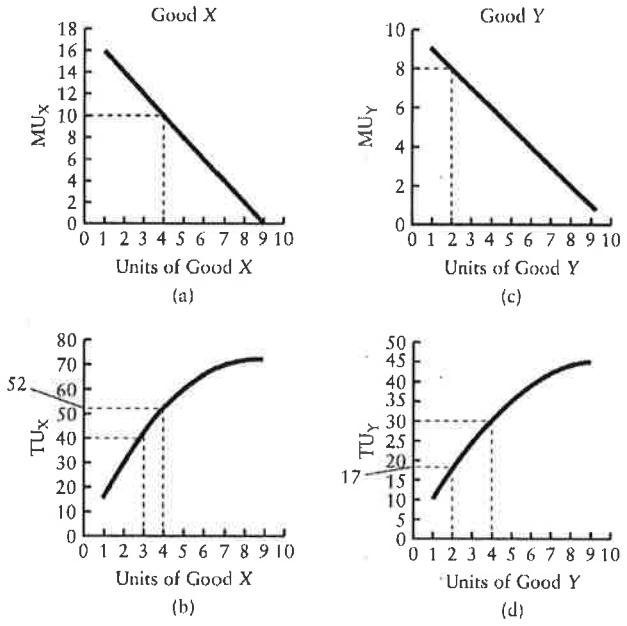
    (a) 15.

    (b) 10.

    (c) 57.

    (d) 33.

    (e) 45.



14. Use the above figure. Suppose the price of X is \$2, the price of Y is \$1, and the consumer's income is \$10. The consumer is currently buying 4 units of good X and 2 units of good Y. In order to maximize his utility, he should

    (a) buy the same amount of X but less Y.

    (b) make no changes he is already maximizing his total utility.

    (c) buy more of X but the same amount Y.

    (d) buy more of X and less Y.

    (e) buy more Y and less X.

15. Canada has a much lower population density than does Japan. Therefore, the price of land (relative to the price of labour) is lower in Canada than in Japan. Consider a Canadian firm and a Japanese firm, both producing rice, both having access to the same technologies, and both striving to minimize costs. Now suppose that the relative price of land rises in Canada but remains the same in Japan. The effect on the use of inputs will be to

    (a) increase the land/labour ratio for both the Canadian and the Japanese firms.

    (b) decrease the land/labour ratio for the Canadian firm.

    (c) increase the land/labour ratio for the Canadian firm.

    (d) decrease the land/labour ratio for both the Canadian and the Japanese firms.

    (e) not change the land/labour ratio for either firm.

16. Suppose the government has imposed a price ceiling on laptop computers. Which of the following events could transform the price ceiling from one that is not binding into one that is binding?

    (a) Improvements in production technology reduce the costs of producing laptop computers.

    (b) The number of firms selling laptop computers decreases.

    (c) The number of consumers increases.

    (d) Consumers' income decreases, and laptop computers are a normal good.

    (e) The number of consumers buying laptop computers decreases.

17. Which one of the following cases is not an example of price discrimination?

    (a) Electric companies charge different rates to commercial and residential users for electricity.
    (b) Young males are charged higher premiums for car insurance than older males or women.
    (c) A local phone company charges different telephone rates to residential and business users.
    (d) Airlines charge different fares for business people than tourist travelers.
    (e) Theatres charge different rates for different age groups.

18. A single-price monopolist is currently producing an output level where P = $320, MR = $260, ATC = $280, and MC = $200. In order to maximize profits, this monopolist should

    (a) produce zero output.
    (b) increase production and reduce price
    (c) not change the output level because the firm is currently at the profit-maximizing output level.
    (d) decrease production and increase price.
    (e) There is insufficient information to make a recommendation.

19. Comparing the short-run and long-run profit-maximizing positions of a perfectly competitive firm, which statement is true?

    (a) The firm may have unexploited economies of scale in both the short run and the long run.
    (b) Economic profit may exist in the short run and in the long run.
    (c) Price will equal marginal cost in the short run, but not necessarily in the long run.
    (d) The firm will produce at minimum average cost in both the short and long run.
    (e) Price should equal average cost in the long run, but not necessarily in the short run.

20. What movie do you plan on watching over the break?

    (a) Die Hard.
    (b) Die Hard.
    (c) Die Hard.
    (d) Die Hard.
    (e) Die Hard.

PART II: Short Answer Questions.

II.1) A Queens University student (Lupe) has two options for meals: eating at the dining hall for $6 per meal, or eating Shin Ramyun Black Label instant ramen for $1.50 per meal. Lupes weekly food budget is $60.

A. Draw the budget constraint showing the trade-off between dining hall meals and ramen. Assuming she spends equal amounts on both goods, draw an indifference curve showing the optimal point. Label the optimum as point A. (**5 marks**)

B. Suppose the price of ramen skyrockets to $2 per meal. Using your diagram from (a), show the consequences of the price change. Assume that Lupe now spends 30% of her income on dining hall meals. Label the new optimum as point B. (**5 marks**)

C. What do the income and substitution effects capture here? Show the substitution and income effects on the graph and explain. (**10 marks**)

D. What kind of good is ramen for Lupe? Draw a demand curve for ramen for Lupe and show the income and substitution effects. (**5 marks**)

II.2) Tullys Cone of Shame Company is a profit-maximizing firm in the competitive market of dog cones.

A. Draw a graph of Tully's Cone of Shame Company next to a graph for the entire market, assuming the market is in long-run equilibrium. Carefully label the graphs, including all curves, as well as the equilibrium quantity and price. (**5 marks**)

B. Draw and explain the firms short run supply curve, being sure to label all important prices and quantities.(**5 marks**)

C. Emma, the owner of Tully's Cone of Shame Company, invents a new technique to manufacture dog cones that drastically reduces their cost of production. What happens to the profits of this company in the short run when they have a patent that prevents other firms from using the new technology? What about the other firms? Explain with the help of a diagram. Assume that the other firms have large fixed costs. (**10 marks**)

D. What happens in the long run when the patent expires and other firms are free to use the new technology? (**5 marks**)

E. Suppose that all the firms in this industry merged to create a monopoly, would this increase or decrease the efficiency of the market? Would prices be higher or lower? What about quantity? explain with the help of a graph. (**5 marks**)