

Your name:

Your student number:



MID-TERM TEST REVIEW

COMM 220

A total of 40 points

40 multiple-choice questions worth one point each.

Answering

Enter your answers on the computer grading form provided.

You may also provide a written explanation or comment for any of the questions, and part marks may be awarded or deducted. This is optional. Write your explanations on the last page.

Do not detach pages.

Aids

Ruler, translation dictionary, nonprogrammable calculator are permitted. Do rough work in empty spaces and on the two blank pages near the end.

Prohibited

Scrap paper, tattoos, cell phones, smart phones, stupid phones, computers, PDAs, iPods, CD and DVD players, Blue Ray players, microwave ovens, satellite dishes, CRT, LCD, LED, and plasma TVs.

Tips

Read the captions to tables and figures carefully.

For questions with ranges, pick the tightest range that contains the answer.

The answer choice *Uncertain* means the same as *Cannot be determined*. It does not mean that you are uncertain.

Better off and worse off refer to changes in utility.

To the serious minded

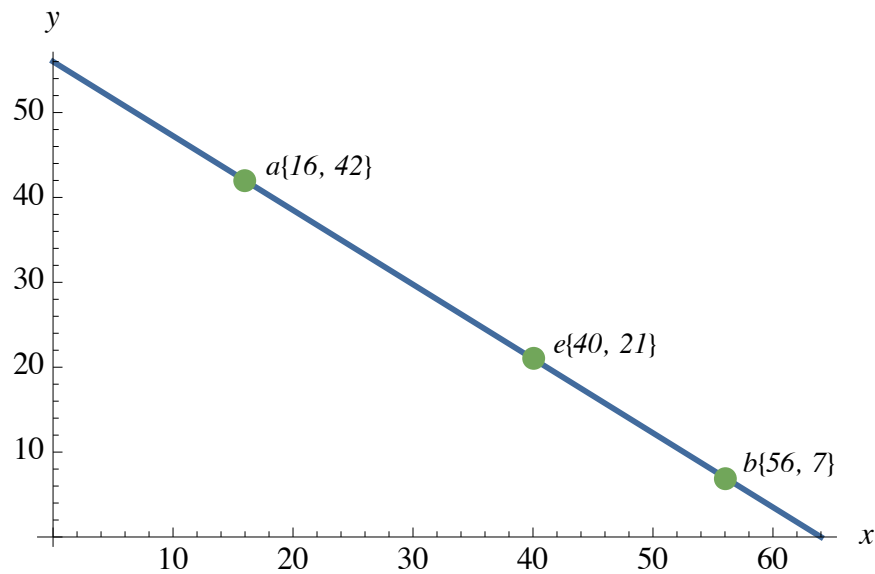
Some answer choices are just plain silly. It's comic relief—I hope.

Submitting

Submit the computer grading form and this document at the end of the test. Your test will not be graded unless both are submitted.

Gregory Lypny

PART 1



Lucy's budget line for x and y . Her initial indifference curve (not shown) passes through her endowment e . Lucy's marginal rate of substitution at e is less than the price ratio. The value of her endowment is \$896.

- What is the price ratio?
 - $\frac{8}{5}$
 - $\frac{3}{8}$
 - $\frac{66}{52}$
 - $\frac{7}{8}$
 - $\frac{2}{1}$
- What is the price of y ?
 - \$11
 - \$14
 - \$16
 - \$18
 - \$21
- To reach her consumption optimum, Lucy will...
 - sell some x in exchange for y .
 - buy some x in exchange for y .
 - do nothing because e is a happy place.
- As Lucy moves towards her consumption optimum, her marginal rate of substitution will...
 - increase.
 - decrease.
 - remain the same.
 - vary randomly.
 - stop suddenly and refuse to cooperate.
- At her consumption optimum, Lucy will be...
 - poorer.
 - wealthier.
 - worse off.
 - better off.
 - a little shorter.

$$\begin{aligned}
 P_x/P_y &= 7/8 \\
 X &= 7/8(Y) \\
 896 &= 40x + 21y \\
 896 &= 40(.875y) + 21y \\
 896 &= 56y \\
 16 &= Y
 \end{aligned}$$

Note: Bigger price ratio implies a bigger weight is given to X

6. Anyone with the same endowment as Lucy and facing the same prices would ultimately make the same choice.
- A. True
 B. False
7. If both the prices of x and y were one dollar higher, Lucy would have been wealthiest with...
- A. bundle a .
 B. bundle b .
 C. bundle e .
 D. a bundle of 100 dollar bills big enough to choke a horse.
8. If instead of an endowment worth \$896, Lucy had a one-time income of \$896...
- A. she would be wealthier.
 B. she would be poorer.
 C. she would choose a different bundle to consume.
 D. she would choose the same bundle to consume.
 E. her utility at her consumption optimum would be different.

.....

ROUGH WORK HERE

7. Prices were $Y=\$16$ and $X=\$14$ (found through Y)
 Now they are $Y=\$17$ and $X=\$15$

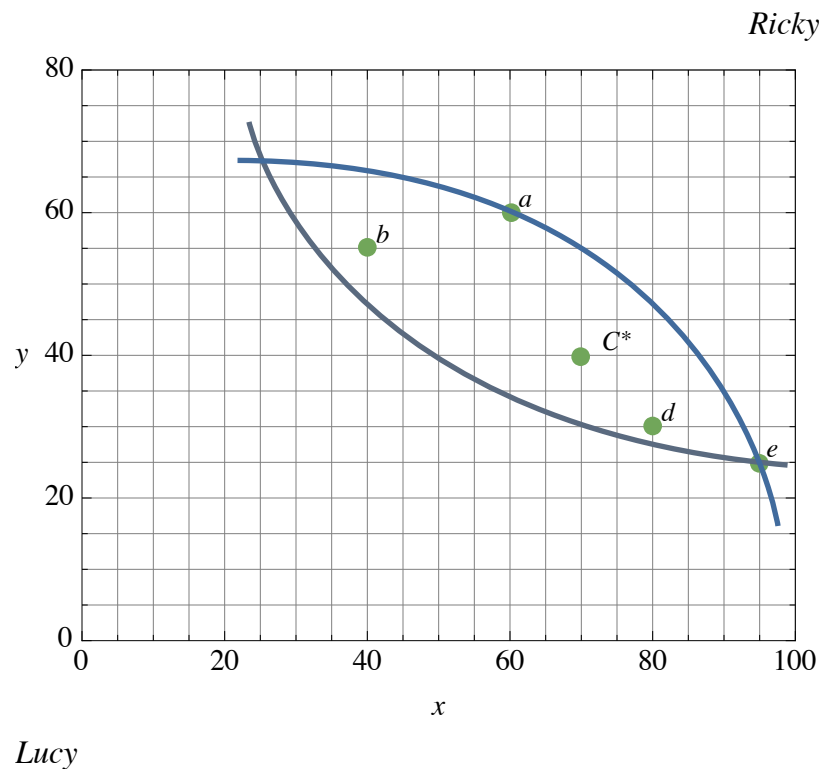
Plug those prices into your 3 bundle consumptions and you get

$a=954$
 $e=957$
 $b=959$

8. Income is money in your purse. The only difference between the endowment and income is the price ratio.

If income was \$900 then the budget line would shift up and be parallel to the old line. We don't know what she would do with the extra \$4. The answer in this case would be both A and C.

PART 2



An Edgeworth box for a two-person, pure-exchange economy. It is to scale, and all of the points have integer coordinates. The endowment is e and the Pareto optimum is C^* . If Lucy and Ricky trade, it is competitive.

9. Who values the next unit of x more at e ?

- A. Lucy
- B. Ricky
- C. Curly
- D. Larry
- E. Moe

10. Who buys x in exchange for y ?

- A. Lucy
- B. Ricky
- C. Curly
- D. Larry
- E. Moe

11. What is the price ratio in equilibrium?

- A. $\frac{4}{3}$
- B. $\frac{1}{2}$
- C. $\frac{3}{5}$
- D. $\frac{3}{4}$
- E. $\frac{7}{9}$

12. Point b is a Pareto improvement over e .

- A. True
- B. False
- C. Cannot be determined

11. You have to use C^* in finding the price ratio because it asks in terms of equilibrium. $(25-40)/(95-70)=15/25$

13. What type of equilibrium does C^* represent?

- A. Biochemical
- B. Celestial
- C. General
- D. Partial
- E. Hormonal

14. A reallocation from a to d is a Pareto improvement.

- A. True
- B. False
- C. Cannot be determined

15. Arrow's Impossibility Theorem tells us that...

- A. a competitive equilibrium is Pareto optimal.
- B. Lucy and Ricky are wealthiest at the Pareto optimum.
- C. there can be more than one Pareto optimum.
- D. a Pareto optimum is impossible to attain because of the status quo bias.
- E. any allocation made on behalf of Lucy and Ricky by an outsider is unlikely to be Pareto optimal.

ROUGH WORK HERE

13. GENERAL equilibrium: trading has occurred and we find the price ratio through bundle consumptions

PARTIAL equilibrium: we know the prices and the endowment. Somebody has told you everything you need to know.

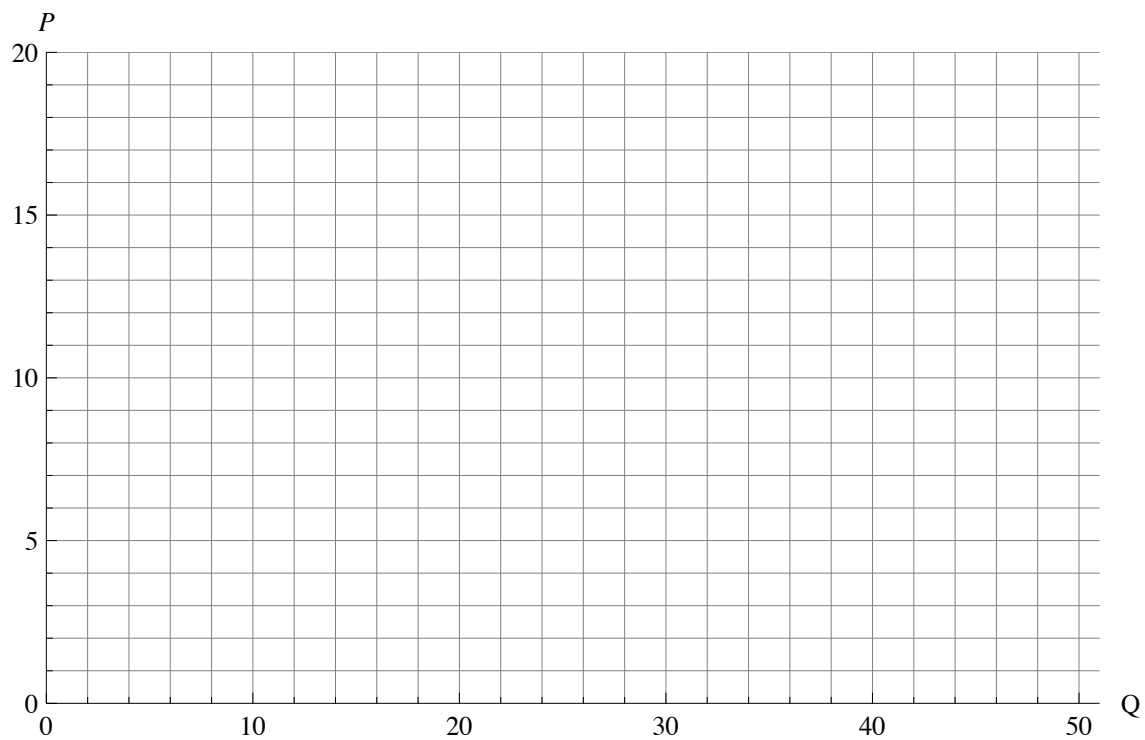
14. He said that he made the mistake on his last exam because it could be either B or C. If they are currently trading at A then we don't know what Lucy's new indifference curve looks like. Therefore, it can be a normal shape and not include d or it can be a weird shape and include d.

15. No outsiders would be able to trade properly on Lucy or Ricky's behalf and reach a Pareto improvement, because trade is based on taste and MRS.

PART 3

Buyers			Sellers		
ID	Qd	Pd	ID	Qs	Ps
B1	6	\$18	S1	12	\$7
B2	6	\$17	S2	8	\$9
B3	6	\$13	S3	7	\$10
B4	9	\$13	S4	6	\$12
B5	7	\$11	S5	8	\$15

Individual offers to buy and sell in a competitive market. Q is quantity and P is offer price. The offers are collected and an equilibrium price determined such that the quantity demanded is equal to the quantity supplied. Assume that the equilibrium price is midway between the marginal buyer and seller offers. Use the grid below to draw the supply and demand schedules. Note the spacing of the gridlines.



16. What is the equilibrium?

- A. 18 units at \$15
- B. 22 units at \$10
- C. 24 units at \$9.50
- D. 30 units at \$10
- E. 27 units at \$11.50

17. What is the producers' surplus?

- A. \leq \$75
- B. \leq \$100 PS=84.5
- C. \leq \$125
- D. \leq \$150
- E. $>$ \$150

18. Is the equilibrium Pareto optimal?

- A. No because not all of the goods available were traded.
- B. No because the consumers' and producers' surpluses are not equal.
- C. Yes because the market is competitive.
- D. Yes because aggregate demand is less than aggregate supply.
- E. Yes because the market cleared.

19. How will the equilibrium be affected if the government imposes a quantity tax of \$3 per unit?

If it was a
subsidy of \$3
the answer
would be A.

- A. The price will fall and the quantity will rise.
- B. The price will rise and the quantity will fall.
- C. The price will rise.
- D. The quantity will fall.
- E. None of the above.

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ROUGH WORK HERE

PART 4

Asset	Red (prob. = $\frac{2}{5}$)	Blue (prob. = $\frac{3}{5}$)
G1	-\$3,600	\$12,900
G2	-\$3,000	\$12,800
G3	\$18,000	-\$1,500

Three risky assets whose immediate payoffs depend on the Red or Blue outcome with the probabilities shown. Whether the loss occurs on heads or tails does not affect your calculation of expected payoff.

20. If you were risk neutral and could choose only one asset, which would it be?

A. G1

B. G2

C. G3

D. Indifferent between G1 or G2

E. Indifferent between G2 or G3

21. If you were risk averse and could choose only one asset, which would it be?

A. G1

B. G2 Highest rate of return & lowest risk

C. G3

D. G1 or G2 depending on tastes

E. G1 or G3 depending on tastes

*If we increased the expected rate of return on G3 to 7300, and the spread of G2 to 17,000 then a Risk Neutral person would pick G3 and a risk averse would pick any of the three depending on taste.

* If we increase the expected rate of return on G3 to 7300, then a risk neutral person would pick G3 and a risk averse would pick either G2 or G3.

22. Suppose you could choose any two and combine them into a portfolio. Is there one that all risk averse investors would include in their portfolios? (Tip: You don't have to work out the portfolio payoffs to arrive at an answer.)

A. G1 G3 has opposite returns as G1 and G2. It is positive for red and negative for blue. If you include G3 in the portfolio then you minimize risk. If this wasn't the case the answer would be D.

B. G2

C. G3

D. No, it depends on tastes.

E. Cannot be determined.

23. Now also suppose that these assets are traded and have market prices. In light of your answer to the previous question, which asset is likely to have the lowest expected rate of return?

A. G1 If everyone wants G3 then the price will increase. When price increases expected rate of return decreases.

B. G2

C. G3

D. Depends on tastes.

E. Cannot be determined.

PART 5

To find E add up the biggest number in the columns remaining. The biggest numbers imply the lowest tax rate

	A	B	C
Investor Type I	\$55	\$50	\$41
Investor Type II	\$48	\$41	\$47
Investor Type III	\$54	\$58	\$47

Consider an experiment in which subjects trade a stock in a competitive market. The stock pays a sure dividend of \$65 in each of three periods, A, B, and C. Subjects are assigned to investor types who differ according to the marginal tax rate they face each period. The table shows *after-tax* dividends, and this is private information.

24. What is the stock's equilibrium price in period A?

- A. \leq \$155
- B. \leq \$165
- C. \leq \$175
- D. \leq \$185
- E. $>$ \$185

E= 160

25. What is the stock's equilibrium price in period C?

- A. \leq \$155
- B. \leq \$165
- C. \leq \$175
- D. \leq \$185
- E. $>$ \$185

E=47

26. From your answer to the previous question, you can conclude that price is determined by investors with...

- A. the highest average tax rate across time.
- B. the highest marginal tax rate each period.
- C. the lowest average tax rate across time.
- D. the lowest marginal tax rate each period.
- E. the nicest shoes.

The investor with the lowest marginal tax rate has the highest price.

27. Suppose that Investor I's tax rate in period B was five percentage points higher. What affect would this have on the price of the stock?

- A. It would be higher in all three periods.
- B. It would be lower in all three periods.
- C. It would be different in one of the periods.
- D. It would be different in two of the periods.
- E. It would be unaffected.

28. Suppose that, in addition to a spot market, there is a forward market in period A for delivery in B. What is the equilibrium forward price for that contract?

- A. \leq \$70
- B. \leq \$90
- C. \leq \$110
- D. \leq \$130
- E. $>$ \$130

Efp=105

27. In period B, investor 3 is controlling the price. Because investor 1 tax rate went up, his price will go down and therefore we don't care. If the question was different and the tax rate went lower cause his price to rise above 58 then the answer would be D. It would change the equilibrium in A and B, but not in C.

*The value of the right to trade =
The most ANYONE can get out of free trade - an individual's maximum

PART 6

Consider a market experiment, like the one discussed in class, in which there is a fifty-fifty chance that a stock pays a dividend of \$4 or \$14 at the end of each of ten periods. Every subject has the same information about dividends and knows that everyone else has this information.

29. The experiment can be thought of as a study of...
- A. mean reversion.
 - B. status quo bias.
 - C. informational efficiency.
 - D. popular models.
 - E. private information equilibrium.
30. It is assumed for the experiment that subjects are risk neutral and that the time value of money is irrelevant. If instead time value matters, ...
- A. a bubble should occur.
 - B. the price should rise or fall depending on whether the most recent dividend paid is high or low.
 - C. the price should be lowest during the first two or three periods
 - D. the price in any period should be the sum of expected dividends.
 - E. the price in any period should be less than the sum of expected dividends.
31. What is the equilibrium price that economic theory predicts for period 5?
- A. \$42
 - B. \$48
 - C. \$54
 - D. \$63
 - E. \$71
32. Suppose that at the beginning of period 6 it is announced that the distribution of future dividends will be changed to \$2 and \$16 for the remainder of the session. What should happen to the price of the stock given the assumptions of the experiment?
- A. Fall
 - B. Rise
 - C. Nothing given risk neutrality
 - D. Nothing given time value irrelevance
 - E. Nothing because no one is paying attention

Average rate of return = 9
of periods left = 6 (\$ is collected at the end of the period)

$$9 \times 6 = 54$$

29. Strong informational efficiency: past, present and future knowledge (research about patterns, investment deals..etc)

Semi-strong ie: past and present knowledge

Weak ie: past knowledge

32. The risk has now increased even though the mean is the same. BUT we are assuming that everyone is risk neutral so they won't care. If we didn't have that assumption the price would have fallen.

PART 7

A couple of quick calculations.

33. Your friend says that she will triple your money in 10 years if you place an investment with her (no relation to Earl Jones). Your best alternative is to earn 11% compounded annually. What should you do?

- A. Invest with your friend
- B. Invest at 11%

Let's say you invest \$100. After 10 years you get...

\$300 with friend

\$289 with compounded interest (found by multiplying 100 by 1.11 ten times)

34. Your first year of university is coming up soon, and you figure you'll need \$41,000 for tuition and living expenses (obviously this is not Quebec). No problem, you landed a unionized job driving a forklift at Loblaw's frozen food warehouse. How much will you have to earn to cover your schooling if your marginal income tax rate is 20%?

- A. \$20,000
 - B. \$41,700
 - C. \$50,400
 - D. \$51,250
 - E. \$52,500
- $41000/(1-.2) = 51,520$

PART 8

35. Article question [removed]

- A. [choice]
- B. [choice]
- C. [choice]
- D. [choice]
- E. [choice]

36. Article question [removed]

- A. [choice]
- B. [choice]
- C. [choice]
- D. [choice]
- E. [choice]

37. Article question [removed]

- A. [choice]
- B. [choice]
- C. [choice]
- D. [choice]
- E. [choice]

38. Article question [removed]

- A. [choice]
- B. [choice]
- C. [choice]
- D. [choice]
- E. [choice]

39. Article question [removed]

- A. [choice]
- B. [choice]
- C. [choice]
- D. [choice]
- E. [choice]

40. Article question [removed]

- A. [choice]
- B. [choice]
- C. [choice]
- D. [choice]
- E. [choice]



ROUGH WORK HERE

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OPTIONAL EXPLANATIONS HERE