

Your name:

Your student number:



# MID-TERM TEST

COMM 220 B • Fall 2011

## **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, iPads, iPods, CD and DVD players, Blu 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**

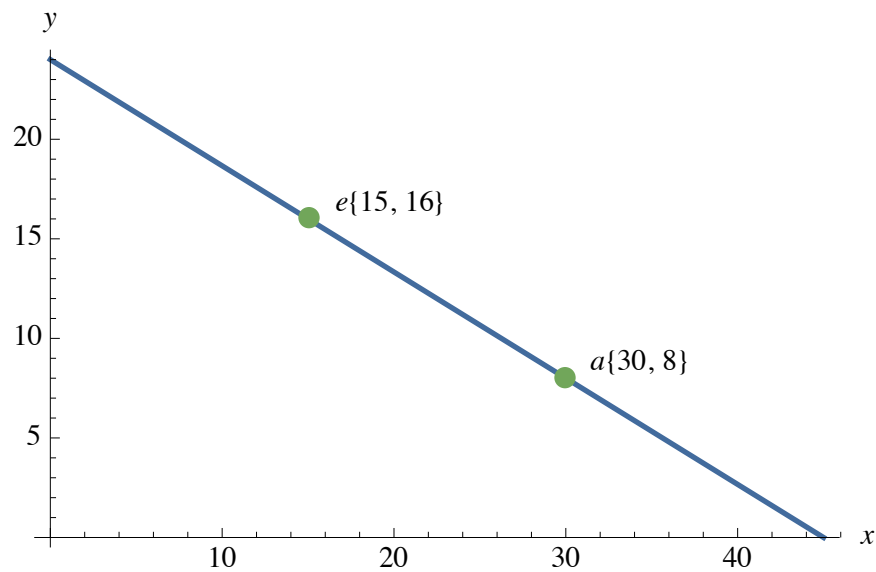
Some answer choices are just plain silly. It's comic relief—I hope.

## **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



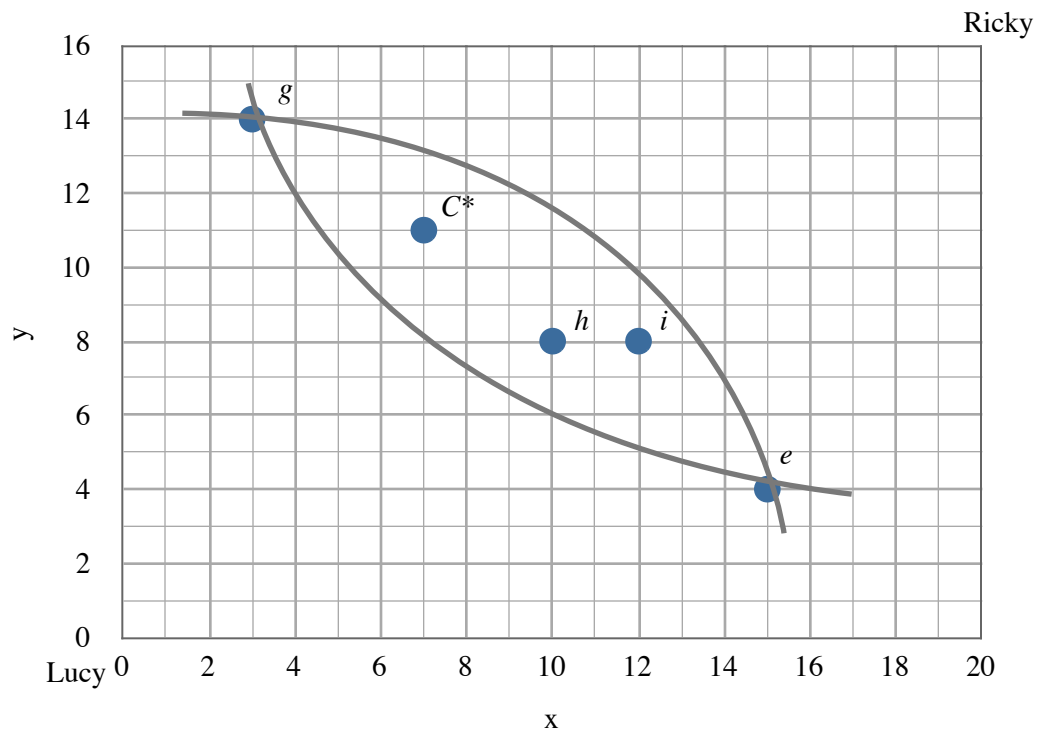
Lucy's budget line for  $x$  and  $y$ . Her initial indifference curve (not shown) passes through her endowment,  $e$ , and another point,  $a$ . Her wealth is \$360.

- What is the price ratio?
  - $\frac{4}{15}$
  - $\frac{3}{8}$
  - $\frac{16}{15}$
  - $\frac{8}{15}$
  - $\frac{8}{34}$
- Lucy's marginal rate of substitution at  $e$ ...
  - is smaller than the price ratio.
  - is bigger than the price ratio.
  - is equal to the price ratio.
- Lucy values the marginal unit of  $x$  more at  $e$  than she does at  $a$ .
  - True
  - False
  - Cannot be determined
- What is the price of  $x$ ?
  - \$2
  - \$5
  - \$8
  - \$13
  - \$17
- To reach her consumption optimum, Lucy will...
  - sell  $x$  in return for  $y$ .
  - sell  $y$  in return for  $x$ .
  - do nothing because  $e$  is a happy place.

6. At her consumption optimum, Lucy will be...
- A. better off.
  - B. worse off.
  - C. no better or worse off than she is at  $e$ .
  - D. wealthier.
  - E. poorer.
7. As Lucy moves towards her consumption optimum, her marginal rate of substitution will...
- A. increase.
  - B. decrease.
  - C. remain the same.
  - D. vary randomly.
  - E. will scream loudly, "I said no onions on my cheeseburger!"
8. If the price of  $x$  was five percent lower, Lucy would have been wealthier at point  $a$  than at  $e$ .
- A. True
  - B. False

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ROUGH WORK HERE

## 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 places a bigger value on the next unit of  $x$  at  $e$ ?
- Lucy
  - Ricky
  - Curly
  - Larry
  - Moe
10. Who buys  $x$  and pays for it with  $y$ ?
- Lucy
  - Ricky
  - Curly
  - Larry
  - Moe
11. What is the price ratio in equilibrium?
- $\frac{7}{8}$
  - $\frac{11}{7}$
  - $\frac{5}{13}$
  - $\frac{3}{4}$
  - $\frac{6}{7}$
12. Point  $h$  is a Pareto improvement over point  $i$ .
- True
  - False
13. What type of equilibrium does  $C^*$  represent?
- Biochemical
  - General
  - Partial
  - Hormonal
  - Celestial

14. If Ricky is indifferent between  $C^*$  and  $h$ , then  $h$  must be a Pareto optimum too.

- A. True
- B. False

15. If, instead of trading, a government committee imposed an allocation on Lucy and Ricky...

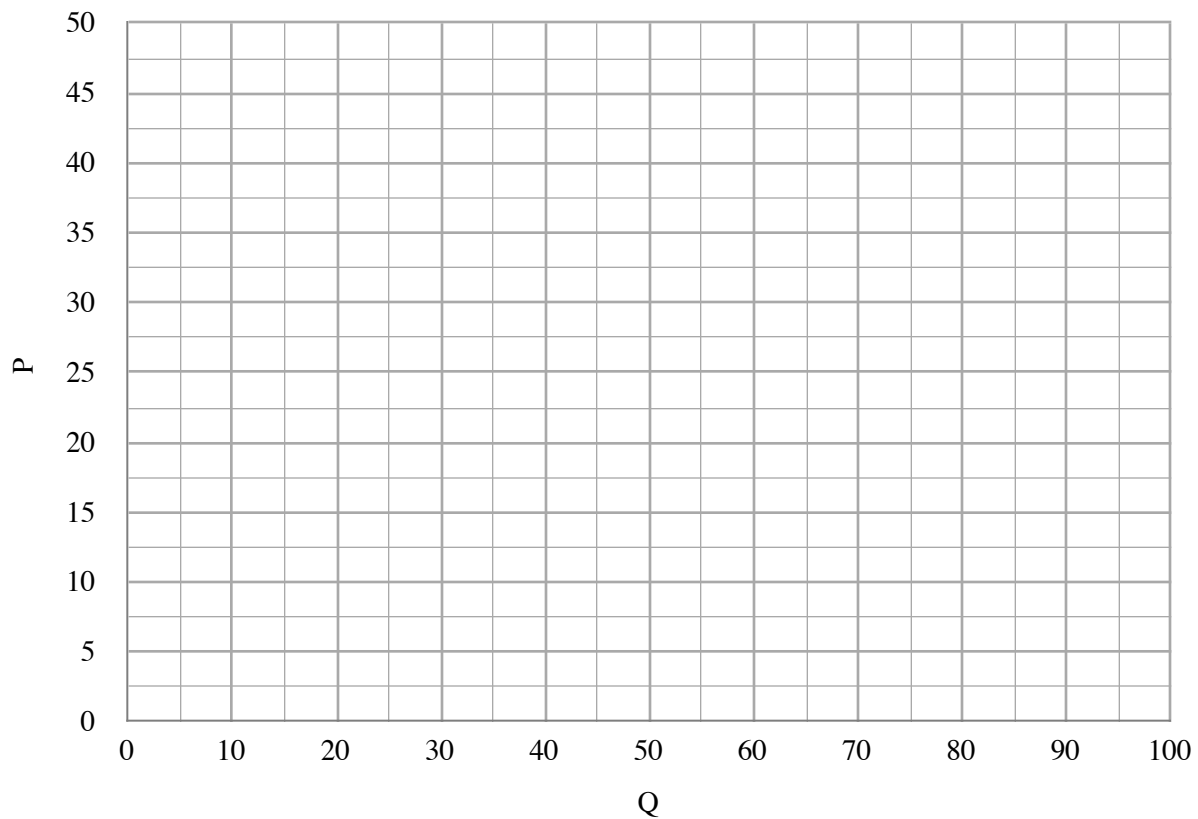
- A. it is unlikely that it would be Pareto optimal according to Arrow's Impossibility Theorem.
- B. it would be Pareto optimal according to the First Welfare Theorem.
- C. it is unlikely that it would be Pareto optimal according to the Second Welfare Theorem.
- D. they most certainly would be worse off.
- E. it would probably cost the public millions of dollars and result in a Royal Commission.

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ROUGH WORK HERE

## PART 3

| Buyers |    |      | Sellers |    |      |
|--------|----|------|---------|----|------|
| ID     | Qd | Pd   | ID      | Qs | Ps   |
| B1     | 15 | \$47 | S1      | 20 | \$10 |
| B2     | 10 | \$41 | S2      | 25 | \$14 |
| B3     | 10 | \$35 | S3      | 5  | \$18 |
| B4     | 30 | \$23 | S4      | 10 | \$31 |
| B5     | 25 | \$19 | S5      | 35 | \$39 |

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.



16. What is the equilibrium?

- A. 35 units at \$18.50
- B. 45 units at \$20.50
- C. 50 units at \$20.50
- D. 60 units at \$27
- E. 65 units at \$29

17. What is the consumers' surplus of Buyer 3?

- A.  $\leq$  \$100
- B.  $\leq$  \$105
- C.  $\leq$  \$110
- D.  $\leq$  \$120
- E.  $>$  \$120

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 cleared.
- D. Yes because aggregate demand is less than aggregate supply.
- E. Yes because the market is competitive.

19. How will the equilibrium be affected if the government imposes a tax of \$6 per unit?

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

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ROUGH WORK HERE

## PART 4

| Asset | Heads  | Tails  |
|-------|--------|--------|
| X     | -\$700 | \$850  |
| Y     | \$690  | -\$540 |
| Z     | \$670  | -\$500 |

Three fifty-fifty investments. Their payouts are immediate. 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. X
  - B. Y
  - C. Z
  - D. X or Y depending on tastes
  - E. Y or Z depending on tastes
21. If you were risk averse and could choose only one asset, which would it be?
- A. X
  - B. Y
  - C. Z
  - D. X or Y depending on tastes
  - E. Y or Z depending on tastes
22. Now suppose you can choose any two. As a risk averter, which portfolio would you never choose?
- A. X & Y
  - B. X & Z
  - C. Y & Z
23. In light of your answer to the previous question, which investment would you always include in your portfolio?
- A. X
  - B. Y
  - C. Z

## PART 5

|                   | A    | B    | C    |
|-------------------|------|------|------|
| Investor Type I   | \$80 | \$75 | \$85 |
| Investor Type II  | \$70 | \$70 | \$75 |
| Investor Type III | \$85 | \$70 | \$80 |

Consider an experiment in which subjects trade a stock in a competitive market. The stock pays a sure dividend of \$100 in each of three periods, A, B, and C. Subjects are assigned to investor types that differ according to the 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?
- < \$160
  - < \$220
  - < \$240
  - < \$260
  - $\geq$  \$260
25. From your answer to the previous question, you can conclude that price is determined by investors with...
- the lowest average tax rate across time.
  - the lowest marginal tax rate each period.
  - the highest average tax rate across time.
  - the highest marginal tax rate each period.
  - the nicest shoes.
26. Suppose that, in addition to a spot market, there is a forward market in period A for delivery in C. What is the equilibrium forward price for that contract?
- < \$70
  - < \$90
  - < \$110
  - < \$130
  - $\geq$  \$130
27. What tax rate does Investor II face in period C?
- 10%
  - 15%
  - 20%
  - 25%
  - Yes, this is a giveaway.
28. No equilibrium can be determined if investors face the same tax rate in all periods.
- True
  - False

## 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 \$6 or \$16 at the end of each of ten periods. The dividends are independently distributed. Everyone has the same information about dividends.

29. The experiment is a study of...
- A. mean reversion.
  - B. weak-form informational efficiency.
  - C. semi-strong form informational efficiency.
  - D. strong-form informational efficiency.
  - E. the efficiency with which my furnace burns up my savings during the winter.
30. It is assumed for the experiment that subjects are risk neutral and that the time value of money is irrelevant. What implication does this have for the theoretical or predicted price throughout the session?
- 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 in any period should simply be the sum of expected dividends
  - D. The price should be lowest during the first two or three periods
  - E. The price should rise as the experiment progresses
31. What is the equilibrium price that economic theory predicts for period 5?
- A. \$6
  - B. \$30
  - C. \$44
  - D. \$66
  - E. \$80
32. Suppose that at the beginning of period 6 it is announced that the distribution of future dividends will be \$9 and \$13. What should happen to the stock's price if investors are risk averse rather than risk neutral as assumed?
- A. Rise
  - B. Fall
  - C. Stay the same
  - D. Uncertain
  - E. Nothing because no one is paying attention

## PART 7

A couple of quick calculations.

33. Which project is the most valuable? Your opportunity cost is 4.5% per year.

|   | t = 1 | t = 2 | t = 3 | t = 4 |
|---|-------|-------|-------|-------|
| X | \$50  | \$80  | \$100 | \$70  |
| Y | \$50  | \$80  | \$100 | \$75  |
| Z | \$50  | \$100 | \$80  | \$70  |

- A. Project X
- B. Project Y
- C. Project Z

34. You're submitting a budget to your boss. You need exactly \$400,000 to finish your projects, and head office has this sneaky habit of skimming off 6% of allocations for overhead. How much should you ask for?

- A. \$376,000
- B. \$400,096
- C. \$406,000
- D. \$424,370
- E. \$425,532

## PART 8

35. Kahneman, Knetsch, and Thaler's review of research on the endowment effect suggests that the reluctance to give up a good stems from...
- an Impressario effect.
  - a shortage illusion if the good is given up.
  - a person finding the good appealing and therefore valuing it highly.
  - a status quo bias.
  - the perception that giving up the good would represent a loss.
  - negative serial correlation.
36. Werner De Bondt and Richard Thaler's paper "Anomalies: A Mean-Reverting Walk Down Wall Street," is a study about...
- selling winners and buying losers.
  - momentum.
  - weak-form market efficiency.
  - semi-strong form market efficiency.
  - strong form market efficiency.
  - having premonitions of the recent public demonstrations to take over Wall Street.
37. The main point in "Dismal Science, Dismal Sentence," *The Economist*, September 7, 2006, is that...
- the judiciary has applied the efficient markets hypothesis inappropriately.
  - the penalty for corporate fraud is severe.
  - the efficient markets hypothesis has been applied successfully by the courts.
  - the damages from stock fraud can be computed precisely from the drop in price of the stock in question.
  - tax accountants wear those silly loafers with tassels.
38. In his survey research on popular models, Robert Shiller finds that the news rated most important by investors around the day of the 1987 stock market crash was...
- sales at Home Depot.
  - stories about the stock price drops.
  - stories about Impressarios.
  - economic updates from the Federal Reserve.
  - stories about shortage illusion.
39. Alvin E. Roth, in his paper "The Art of Designing Markets," says that assigning children to schools by having families submit a rank-order list of their choices and giving people their first choice as long as there are spots was flawed because it...
- encouraged too many families to strike side deals with principals.
  - resulted in too much participation, causing congestion in the market.
  - placed too much weight on living within walking distance from the school.
  - discouraged families from participating, making the market too thin.
  - discouraged some families from truthfully revealing their first choice.
40. Justin Fox reports, in "Why Johnny Can't Save for Retirement," *Fortune*, March 21, 2005, that our inability, sometimes, to make the best choice as to *when* to consume is due to...
- the difficulty in computing present values.
  - unreliability of MRI scans.
  - shortage illusion created by 401(k) plans.
  - impatience created by a primitive part of our brains that is programmed to consume now.



ROUGH WORK HERE

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OPTIONAL EXPLANATIONS HERE