Economics 101
Fall 1998
Section 3 - Hallam
Exam 2

Iowa and Missouri can both produce corn and hay. The following table represents yield per acre for the two states. Corn is measured in bushels while hay is measured in tons.

	Corn	Hay
Iowa	120	5
Missouri	100	4

1. Which state has the absolute advantage in hay production?
   a. Iowa
   b. Missouri
   c. Cannot tell

2. Which of the following statements is true?
   a. Iowa has an absolute advantage in both products and a comparative advantage in corn
   b. Iowa has an absolute advantage in both products and a comparative advantage in hay
   c. Iowa has an absolute in corn while Missouri has an absolute advantage in hay
   d. Nebraska has a comparative advantage in beef
   e. Missouri has an absolute advantage in both products and a comparative advantage in corn

3. Consider the following supply and demand curves. The equilibrium price and quantity are given by
   $D = 50 - P \quad S = 4P - 10$
   a. P = 10, Q = 30
   b. P = 12, Q = 35
   c. P = 15, Q = 50
   d. P = 12, Q = 38
   e. P = 8, Q = 42

Use the following table to answer questions 4 and 5 where the data in the table gives the cost per unit for each item.

	Per bushel wheat	Per bottle wine
Israel	12 shekels	36 shekels
Italy	5,000 lira	12,500 lira

4. What is the opportunity cost of producing one more bottle of wine in Italy?
   a. 5,000 lira
   b. A bushel and a peck and a hug around the neck
   c. 2.5 bushels wheat
   d. 2/5 bushels wheat
   e. 3 bushels wheat

5. Which of the following is true?
   a. Israel has a comparative advantage in producing wheat
   b. Italy has a comparative advantage in producing wine
   c. Israel has an absolute advantage in producing both goods
   d. Italy has a comparative advantage in both goods
   e. Both a and b are correct

6. The government has determined the cost of the average consumption bundle in a number of different price situations. This represents the price level in the economy. In which of the following situations would a consumer be most satisfied.
   a. an annual income of $33,000 when the standard bundle costs $3,000.
   b. an annual income of $48,000 when the standard bundle costs $4,000.
   c. an annual income of $66,000 when the standard bundle costs $6,000.
   d. an annual income of $80,000 when the standard bundle costs $8,000.

7. Consider a demand curve written as $Q^D = 50 - 0.25\ P$. What is the inverse demand curve?
   a. $P = 250 - 5\ Q^D$
   b. $Q^D = -50 + 0.25\ P$
   c. $P = 200 - 4\ Q^D$
   d. $Q^D = 500 - 2.5\ P$
   e. $P = 50 - 0.25\ Q^D$

8. Consider a demand curve written as $Q = 1600 - 4\ P$. What is the slope of this demand curve?
   a. -4
   b. 0.25
   c. -0.20
   d. -0.25
   e. 4

9. What is the elasticity of demand as price goes from $200 to $300?
   a. -0.25
   b. -4
   c. -1 2/3
   d. -0.60
   e. -1

Consider the following data on sugar and shirt production in Cuba and Puerto Rico where the data is production per day. Assume that the production possibility frontier is linear. With no sugar production, Cuba can produce 40,000 shirts. With 200 tons of sugar, Cuba has no shirt production, etc.

	Shirts	Sugar
Cuba	40,000	0
Cuba	0	200
Puerto Rico	36,000	0
Puerto Rico	0	160

10. Which of the following statements is true?
   a. Puerto Rico has an absolute advantage in sugar production
   b. Cuba has an absolute advantage in both products and a comparative advantage in sugar
   c. Cuba has an absolute advantage in both products and a comparative advantage in shirts
   d. Cuba has to give up 225 shirts to get a ton of sugar
   e. Puerto Rico has to give up 200 shirts to get a ton of sugar

11. If Cuba produced 35,000 shirts, how many total tons of sugar could it produce?
    a. 50
    b. 17.5
    c. 25
    d. 5

12. If Cuba produced 35,000 shirts and Puerto Rico produced 22,500 shirts and each used their remaining resources for sugar production, what would total sugar production be?
    a. 100 tons
    b. 75 tons
    c. 85 tons
    d. 125 tons
    e. 12,000

For questions 13-17, use the table below. The table contains data on demand for 2 goods socks (S) and cats (C). The notation is as follows: PS = price of socks, PC = price of cats, I = income, DS = demand for socks, DC = demand for cats. There are four situations shown.

			DS, I = 500	**DC, I=500**				**DS, I = 1000**	**DC, I=1000**
PS	**PC**	**I**	**DS, PC = 5**	**DC, PC = 5**	**PS**	**PC**	**I**	**DS, PC = 5**	**DC, PC = 5**
10.00	5.00	500.00	30.10	39.80	10.00	5.00	1000.00	60.10	79.80
15.00	5.00	500.00	19.80	40.60	15.00	5.00	1000.00	39.80	80.60
20.00	5.00	500.00	14.65	41.40	20.00	5.00	1000.00	29.65	81.40
25.00	5.00	500.00	11.56	42.20	25.00	5.00	1000.00	23.56	82.20
30.00	5.00	500.00	9.50	43.00	30.00	5.00	1000.00	19.50	83.00
35.00	5.00	500.00	8.03	43.80	35.00	5.00	1000.00	16.60	83.80
40.00	5.00	500.00	6.93	44.60	40.00	5.00	1000.00	14.43	84.60
45.00	5.00	500.00	6.07	45.40	45.00	5.00	1000.00	12.74	85.40
			DS, I = 500	**DC, I=500**				**DS, I = 1000**	**DC, I=1000**
PS	**PC**	**I**	**DS, PC = 25**	**DC, PC = 25**	**PS**	**PC**	**I**	**DS, PC = 25**	**DC, PC = 25**
20.00	25.00	500.00	16.45	6.84	20.00	25.00	1000.00	31.45	14.84
25.00	25.00	500.00	13.00	7.00	25.00	25.00	1000.00	25.00	15.00
30.00	25.00	500.00	10.70	7.16	30.00	25.00	1000.00	20.70	15.16

13. What is the price elasticity of demand for socks with an income of $500 when the price of cats is $5.00 as the price of socks from $20 to $25?
    a. -1.032
    b. -1.061
    c. -0.941
    d. 1.025
    e. 0.303

14. Is the demand for socks in the $20 to $25 price range with an income of $500 when the price of cats is $5.00
    a. elastic
    b. unitary elastic
    c. inelastic
    d. Cannot tell from the data

15. What is the income elasticity of demand for socks when the price of cats is $5.00, the price of socks is $30.00 and income goes from $500 to $1,000?
    a. 1.044
    b. 1.053
    c. 1.034
    d. 0.947
    e. 0.955

16. Now consider the demand for socks in the $25 price range when the price of cats is $25.00 and income goes from $500 to $1,000. In this range are socks
    a. a luxury
    b. a necessity
    c. an inferior good
    d. Cannot tell from the data

17. Now consider the demand for cats when the price of cats $5.00 and income is $1,000. Consider a change in the price of socks from $30 to $35. For this price change are socks and cats
    a. substitutes
    b. complements
    c. Cannot tell from the data

For questions 18-20, use the diagrams on the next page. In all cases the dark budget line is the initial situation and dotted one is the subsequent situation.

18. Which diagram represents an increase in income?
    a.
    b.
    c.
    d.

19. Which diagram represents a decrease in the price of good 1?
    a.
    b.
    c.
    d.

20. Which diagram represents an increase in the price of good 2?
    a.
    b.
    c.
    d.

21. Consider the following price and income situation. Income is equal to $100, p_1 = $10, and p_2 = $15. What is the slope of the budget line?
    a. 2/3
    b. -1.5
    c. -2/3
    d. -1
    e. -2

22. Consider the following data on consumption of q_1 and q_2. The price of q_1 is \$5.00. The price of q_2 is \$20.00. Income is \$120. Which of the following combinations of goods maximizes utility.

q2	q1	MU_1	MU_2	MU_1 / p_1	$MU2 / p2$
0	24	0.000	∞	0	∞
1	20	0.106	4.230	0.022	0.212
2	16	0.177	2.829	0.036	0.142
3	12	0.269	2.150	0.054	0.108
4	8	0.421	1.682	0.085	0.085
5	4	0.791	1.265	0.159	0.064
6	0	∞	0.000	∞	0

a. $q_2 = 2, q_1 = 16$
b. $q_2 = 3, q_1 = 12$
c. $q_2 = 5, q_1 = 4$
d. $q_2 = 4, q_1 = 8$
e. $q_2 = 1, q_1 = 20$

23. Consider the following data on consumption of q_1 and q_2. The price of q_1 is \$5.00. The price of q_2 is \$15.00. Income is \$90. Which of the following combinations of goods maximizes utility.

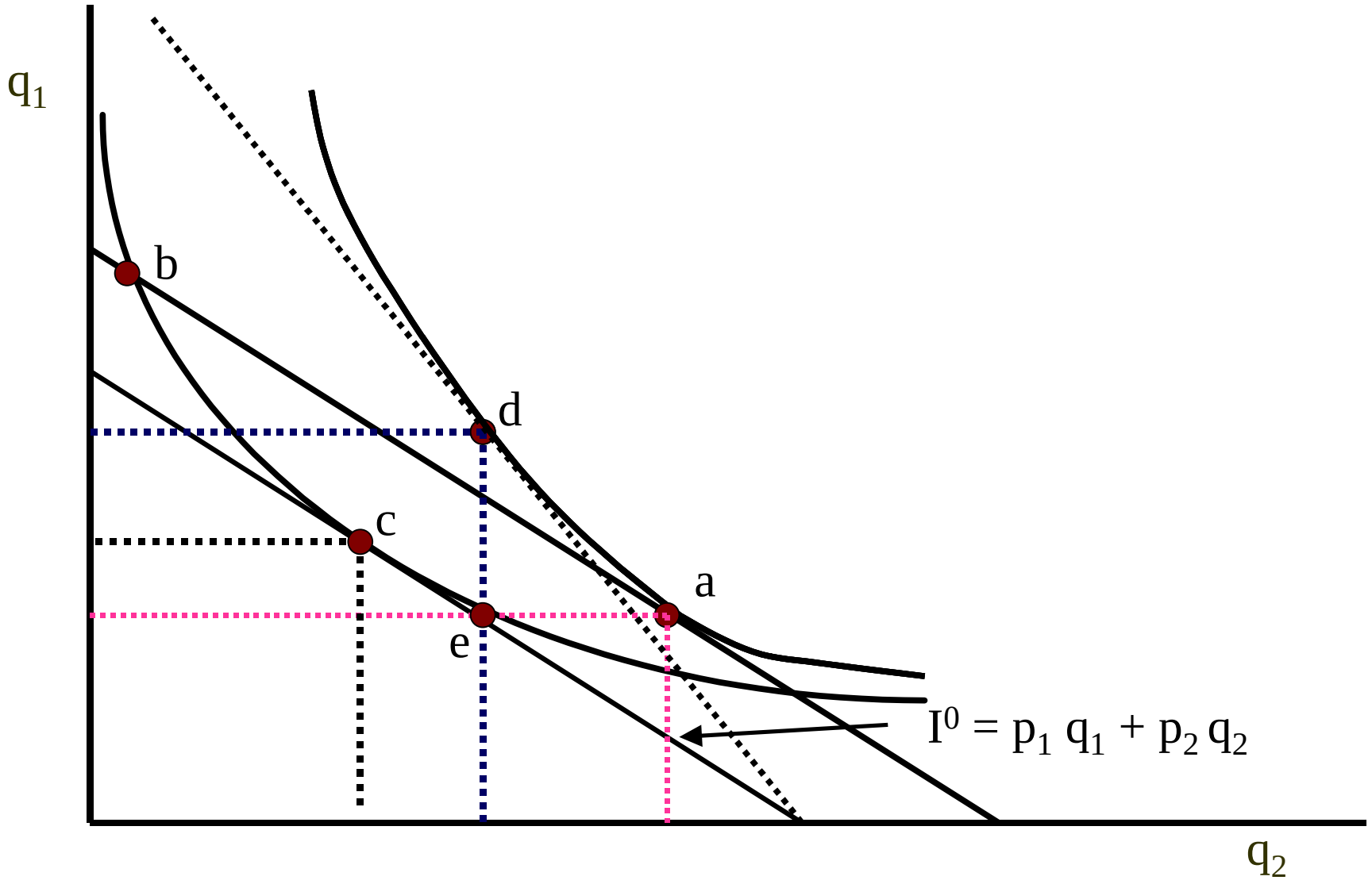
q2	q1	MRS
0	18	∞
1	15	-30
2	12	-12
3	9	-6
4	6	-3
5	3	-1.2
6	0	0

a. $q_2 = 2, q_1 = 12$
b. $q_2 = 3, q_1 = 9$
c. $q_2 = 4, q_1 = 6$
d. $q_2 = 5, q_1 = 3$
e. $q_2 = 4, q_1 = 3$

For questions 24 and 25 consider the diagram on the next page The initial equilibrium is at point c with budget constraint $I^0 = p_1 q_1 + p_2 q_2$.

24. There is now a fall in the price of good 1. Where is the new equilibrium consumption ?
a.
b.
c.
d.
e.

25. Is good 1 in this diagram
a. A luxury good
b. A necessity
c. An inferior good
d. Cannot tell from the diagram


q_1
b
d
c
a
e
$I^0 = p_1 q_1 + p_2 q_2$
q_2

Economics 101
Exam 2

Question	Correct Answer	Question	Correct Answer
1	a	14	a
2	b	15	c
3	d	16	b
4	c	17	a
5	e	18	c
6	b	19	b
7	c	20	d
8	a	21	b
9	c	22	d
10	b	23	c
11	c	24	d
12	c	25	c
13	b		