

Economics 101
Spring 2000
Section 4 - Hallam
Quiz 4

1. Billy receives the following levels of total utility from different numbers of nose rings. One ring gives 1,000 units, 2 rings together give 1,700 units, etc.

Number	Utility
1	1,000
2	1,700
3	2,300
4	2,800
5	3,200

What is the marginal utility of the third nose ring?

- a. 700
 - b. 400
 - c. 500
 - d. 600
 - e. 250
2. The marginal rate of substitution measures the
- a. slope of the demand curve.
 - b. the slope of the budget line.
 - c. the percentage change in quantity demanded for a good due to a percentage change in price.
 - d. the amount of one good that must be given up to acquire more of another good while holding total utility constant.
 - e. percentage change in the quantity of one good due to a percentage change in the price of a substitute good.
3. In an equilibrium for an individual consumer,
- a. $\frac{-p_2}{p_1} = MRS_{q_1q_2} = \frac{\Delta q_1}{\Delta q_2}$
 - b. $\frac{-p_1}{p_2} = \frac{\Delta q_1}{\Delta q_2}$
 - c. the slope of the budget line and the slope of the indifference curve are equal
 - d. both a and c
 - e. a, b, and c

For questions 4 and 5, consider the following data on oil and rice production in Indonesia and Thailand where the data is production per time period. Assume that the production possibility frontier is linear. With no rice production, Indonesia can produce 8,000 barrels of oil. With 400 tons of rice, Indonesia has no oil production, etc.

	Oil	Rice
Indonesia	8,000	0
Indonesia	0	400
Thailand	6,000	0
Thailand	0	200

4. Which of the following statements is true?
- Thailand has an absolute disadvantage in oil production.
 - Thailand has a comparative advantage in oil production.
 - Indonesia has a comparative advantage in oil production.
 - Cannot say which country has an absolute advantage in either product.
 - Both a and b are correct.
5. If Indonesia produced 3,000 barrels of oil and Thailand produced 1,500 barrels of oil and each used their remaining resources for rice production, what would total rice production be?
- 300 tons
 - 200 tons
 - 600 tons
 - 325 tons
 - 400 tons
6. Use the following table to answer question 6 where the data in the table gives the **cost per unit** for each item.

	Per barrel oil	Per bushel wheat
Russia	384 rubles	64 rubles
Germany	32 marks	4 marks

Which of the following is true?

- Russia has a comparative advantage in producing oil
 - Russia has a comparative advantage in producing wheat
 - Germany has a comparative advantage in producing oil
 - Russia has an absolute advantage in producing wheat
 - Both b and c are correct
7. Consider the following data on consumption of q_1 and q_2 . The price of q_1 is \$9.00. The price of q_2 is \$3.00. Income is \$90. Which of the following combinations of goods maximizes utility.

q_1	q_2	MRS_{12}
10.0000	0.0000	-5.57143
9.0000	3.0000	-1.28571
8.3333	5.0000	-0.80952
7.3333	8.0000	-0.49206
6.3333	11.0000	-0.33333
5.6667	13.0000	-0.26531
4.3333	17.0000	-0.1746

- $q_1 = 9, q_2 = 3$
- $q_1 = 8.3333, q_2 = 5$
- $q_1 = 7.3333, q_2 = 8$
- $q_1 = 6.3333, q_2 = 11$
- $q_1 = 4.3333, q_2 = 17$

8. Below is some data on the demand for tacos

Q	P
0	100
1	97.5
2	95
3	92.5
4	90
5	87.5
6	85
7	82.5
8	80
9	77.5
10	75
11	72.5
12	70
13	67.5
14	65
15	62.5
16	60
17	57.5
18	55

What is the elasticity of demand as the quantity changes from 7 to 8.

- a. -0.2307
- b. -4.333
- c. -27.0833
- d. -975
- e. -1

Use the table below for questions 9 and 10. The table contains data on demand for 2 goods, screwdrivers (S) and curling irons (C). The notation is as follows: PS = price of screwdrivers, PC = price of curling irons, I = income, DS = demand (quantity) for screwdrivers, DC = demand (quantity) for curling irons. There are four situations shown.

PS	PC	I	DS I = 84	DC PC = 4	PS	PC	I	DS I = 104	DC PC = 4
2.00	4.00	84.00	37.80	2.10	2.00	4.00	104.00	45.80	3.10
4.00	4.00	84.00	18.60	2.40	4.00	4.00	104.00	22.60	3.40
6.00	4.00	84.00	12.20	2.70	6.00	4.00	104.00	14.87	3.70
8.00	4.00	84.00	9.00	3.00	8.00	4.00	104.00	11.00	4.00
10.00	4.00	84.00	7.08	3.30	10.00	4.00	104.00	8.68	4.30
12.00	4.00	84.00	5.80	3.60	12.00	4.00	104.00	7.14	4.60
14.00	4.00	84.00	4.89	3.90	14.00	4.00	104.00	6.03	4.90
16.00	4.00	84.00	4.20	4.20	16.00	4.00	104.00	5.20	5.20

PS	PC	I	DS I = 84	DC PC = 2	PS	PC	I	DS I = 104	DC PC = 2
2.00	2.00	84.00	35.40	6.60	2.00	2.00	104.00	43.40	8.60
4.00	2.00	84.00	17.40	7.20	4.00	2.00	104.00	21.40	9.20
6.00	2.00	84.00	11.40	7.80	6.00	2.00	104.00	14.07	9.80
8.00	2.00	84.00	8.40	8.40	8.00	2.00	104.00	10.40	10.40

9. What is the price elasticity of demand for screwdrivers when income is \$104, the price of curling irons is \$4.00, and the price of screwdrivers goes from \$6 to \$8?
- a. -1.057
 - b. -1.031
 - c. -1.047
 - d. 0.940
 - e. -0.955
10. Now consider the demand for screwdrivers when the price of screwdrivers is \$6.00 and income is \$84. Consider a change in the price of curling irons from \$4 to \$2. For this price change what is the cross price elasticity of demand for screwdrivers with respect to the price of curling irons?
- a. -1.457
 - b. 0.102
 - c. 0.103
 - d. 0.294
 - e. 0.200
11. Consider a consumer with income of \$100. The price of good 1 is \$25 and the price of good 2 is \$75. As we normally do, we graph consumption quantities with q_1 on the vertical axis. What is the slope of the budget line for this consumer?
- a. -0.333
 - b. 3.00
 - c. -0.25
 - d. -3.00
 - e. -0.75

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Answers

1. d
2. d
3. d
4. e
5. e
6. a
7. d
8. b
9. c
10. b
11. d