Economics 101
Spring 2000
Section 4 - Hallam
Quiz 5

1. Ignoring all other goods, if Jessica's marginal utility per pound of bread is 10 and per pound of cheese is 30, her
   a. total utility would be maximized if the price per pound of cheese is triple the price per pound of bread
   b. total utility could be increased by buying more bread and less cheese
   c. total utility could be increased by buying more cheese and less bread
   d. total utility would be maximized if the price per pound of cheese is one-third the price per pound of bread
   e. marginal utility would be maximized if the price per pound of cheese is one-third the price per pound of bread

2. Kate receives the following levels of total utility from different numbers of cars. One car gives 15,000 units, 2 cars together give 27,000 units, etc.

Number	Utility
1	15,000
2	27,000
3	36,000

   If the price of an automobile $15,000, what is the marginal utility per dollar spent on the second automobile?
   a. 1.8
   b. 0.8
   c. 27,000
   d. 12,000
   e. 0.6

3. Jeff spends all his income on warm-up suits and running shoes. The price of a warm-up suit is four times as large as the price for a pair of running shoes. In order to maximize total utility, Jeff should
   a. buy four times as many warm up suits as pairs of running shoes
   b. buy four times as many pairs of running shoes as warm up suits
   c. divide his income equally between running shoes and warm up suits
   d. buy both items until the marginal utility of a warm-up suit is four times the marginal utility of a pair of running shoes
   e. buy both items until the marginal utility of a pair of running shoes is four times the marginal utility of a warm-up suit

4. 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

5. In an equilibrium for an individual consumer,
   a. the slope of the budget line and the slope of the indifference curve are equal
   b. $\frac{\&p_2}{p_1} \text{ ' } MRS_{q_1 q_2} \text{ ' } \frac{? q_1}{? q_2} \text{ ' } \frac{\&MU_{q_2}}{MU_{q_1}}$
   c. $\frac{p_1}{p_2} \text{ ' } \frac{MU_{q_2}}{MU_{q_1}}$
   d. both a and b
   e. a, b, and c

For questions 6 and 7, 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 10,000 barrels of oil. With 500 tons of rice, Indonesia has no oil production, etc.

	Oil	Rice
Indonesia	10,000	0
Indonesia	0	500
Thailand	6,000	0
Thailand	0	400

6. Which of the following statements is true?
   a. Thailand has an absolute advantage in oil production.
   b. Thailand has a comparative advantage in oil production.
   c. Indonesia has a comparative advantage in oil production.
   d. Cannot say which country has an absolute advantage in either product.
   e. Both c and d are correct.

7. If Indonesia produced 4,000 barrels of oil and Thailand produced 3,000 barrels of oil and each used their remaining resources for rice production, what would total rice production be?
   a. 200 tons
   b. 350 tons
   c. 600 tons
   d. 500 tons
   e. 400 tons

8. Use the following table to answer question 8 where the data in the table gives the **cost per unit** for each item.

	Per barrel oil	Per bushel wheat
Russia	320 rubles	64 rubles
Germany	32 marks	5 marks

Which of the following is true?

a. Russia has a comparative advantage in producing oil
b. Russia has a comparative advantage in producing wheat
c. Germany has a comparative advantage in producing wheat
d. Russia has a comparative advantage in both goods
e. Both a and c are correct

9. 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	MU_1	MU_2
0	18	0.000	4
1	15	0.181	5.409
2	12	0.320	3.834
3	9	0.499	2.990
4	6	0.787	2.360
5	3	1.461	1.753
6	0	4	0

a. $q_2 = 2$, $q_1 = 12$
b. $q_2 = 3$, $q_1 = 9$
c. $q_2 = 5$, $q_1 = 3$
d. $q_2 = 4$, $q_1 = 6$
e. $q_2 = 1$, $q_1 = 15$

10. The diagram on the next page is for use with this question. The two countries are the United States (US) and the United Kingdom (UK). The data is output per day in each country. The outer PPF is for the US.

When each country is producing 1 shirts, which of the following statements is true?

a. The opportunity cost of a shirt in the US is 3 blouses.
b. If the US increased shirt production by 1 unit and the UK decreased shirt production by 1 unit, world blouse production would increase by 2 units.
c. If the UK increased shirt production by 1 unit and the US decreased shirt production by 1 unit, world blouse production would increase by 1 unit.
d. The UK has a comparative advantage in shirts.
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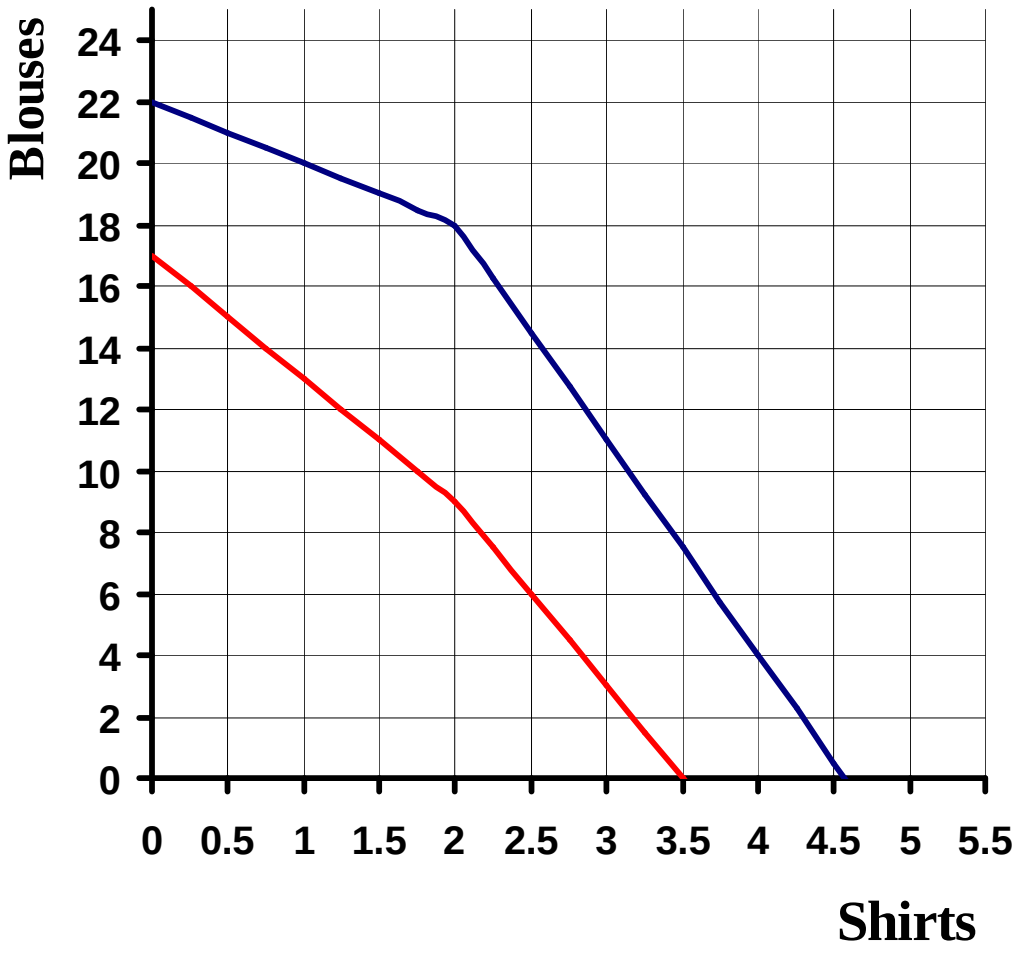
Production Possibility Set
Shirts and Blouses



Economics 101
Spring 2000
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Quiz 5
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Question	Correct Answer
1	a
2	b
3	d
4	d
5	d
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7	d
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Indonesia	0	500
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6. Which of the following statements is true?
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   c. Indonesia has a comparative advantage in oil production.
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c. Germany has a comparative advantage in producing wheat
d. Russia has a comparative advantage in both goods
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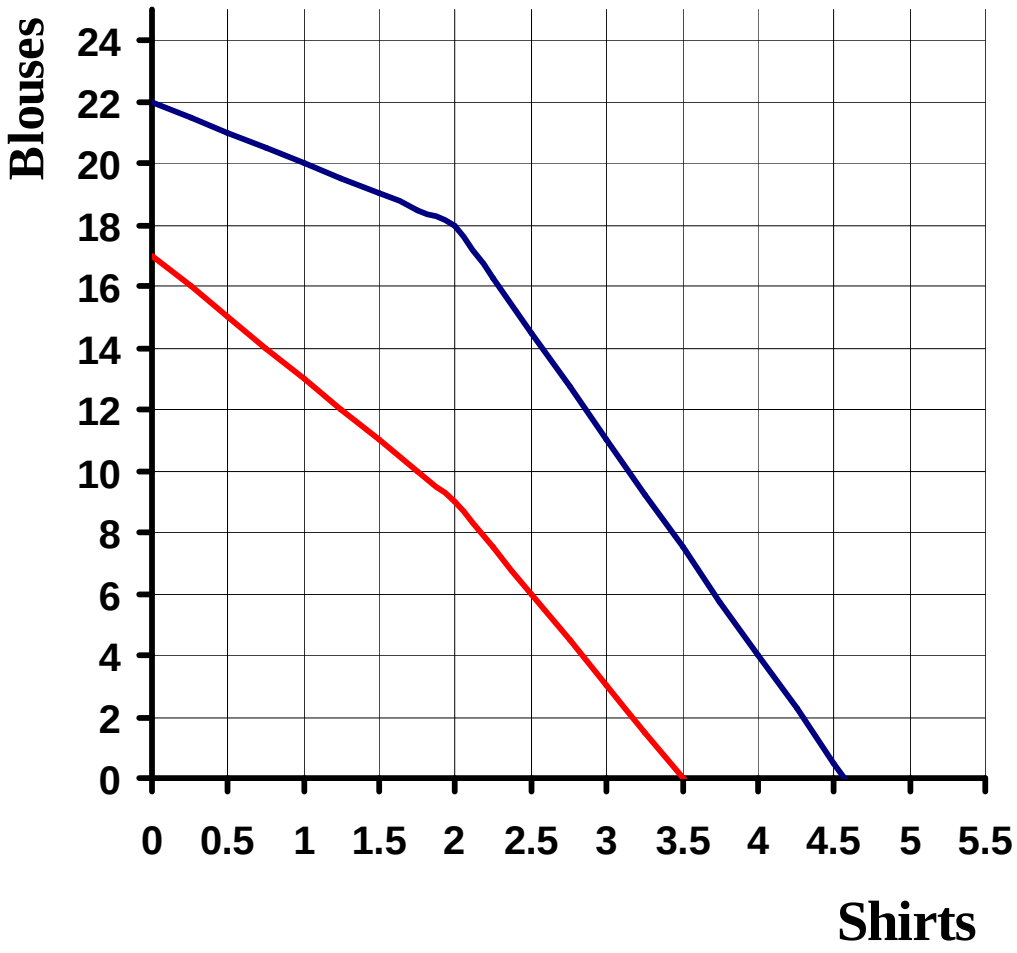
Production Possibility Set
Shirts and Blouses



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Quiz 5
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Question	Correct Answer
1	a
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Economics 101
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2. Kate receives the following levels of total utility from different numbers of cars. One car gives 15,000 units, 2 cars together give 27,000 units, etc.

Number	Utility
1	15,000
2	27,000
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   If the price of an automobile $15,000, what is the marginal utility per dollar spent on the second automobile?
   a. 1.8
   b. 0.8
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	Oil	Rice
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Thailand	6,000	0
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6. Which of the following statements is true?
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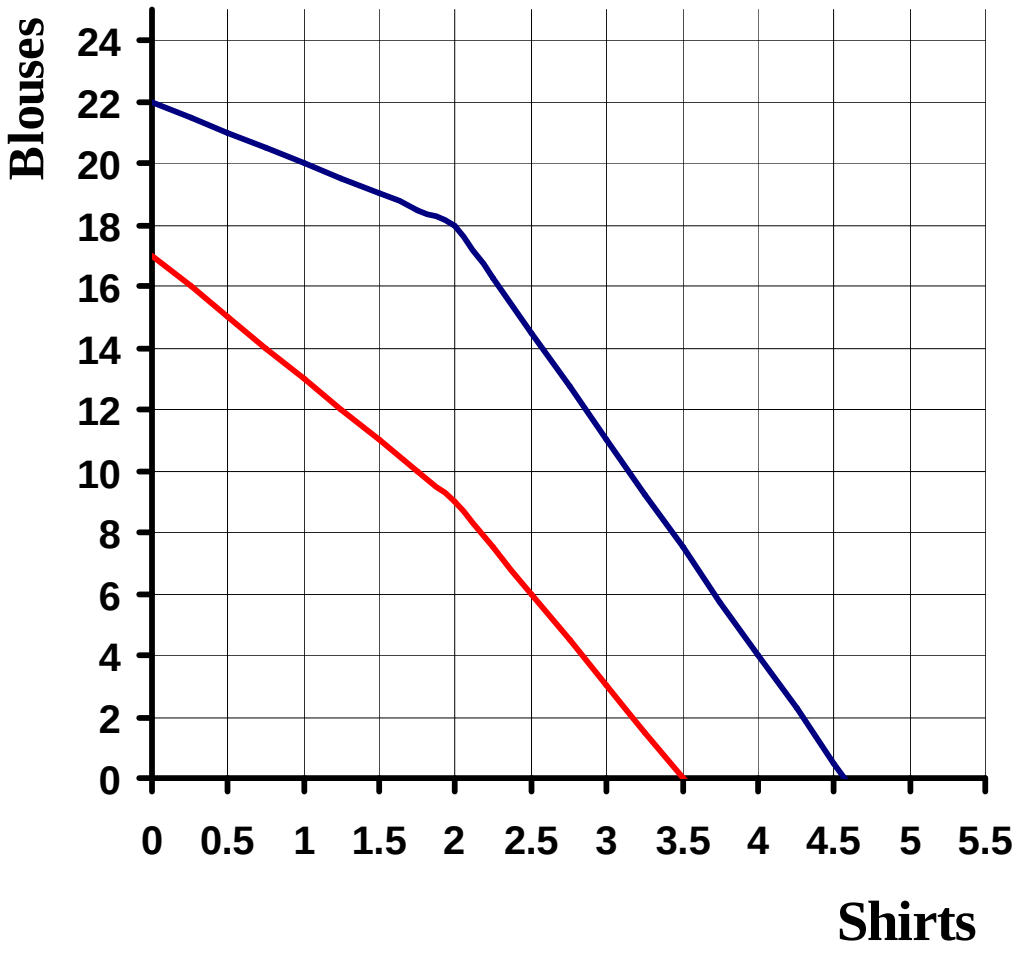
Production Possibility Set
Shirts and Blouses



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   If the price of an automobile $15,000, what is the marginal utility per dollar spent on the second automobile?
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6. Which of the following statements is true?
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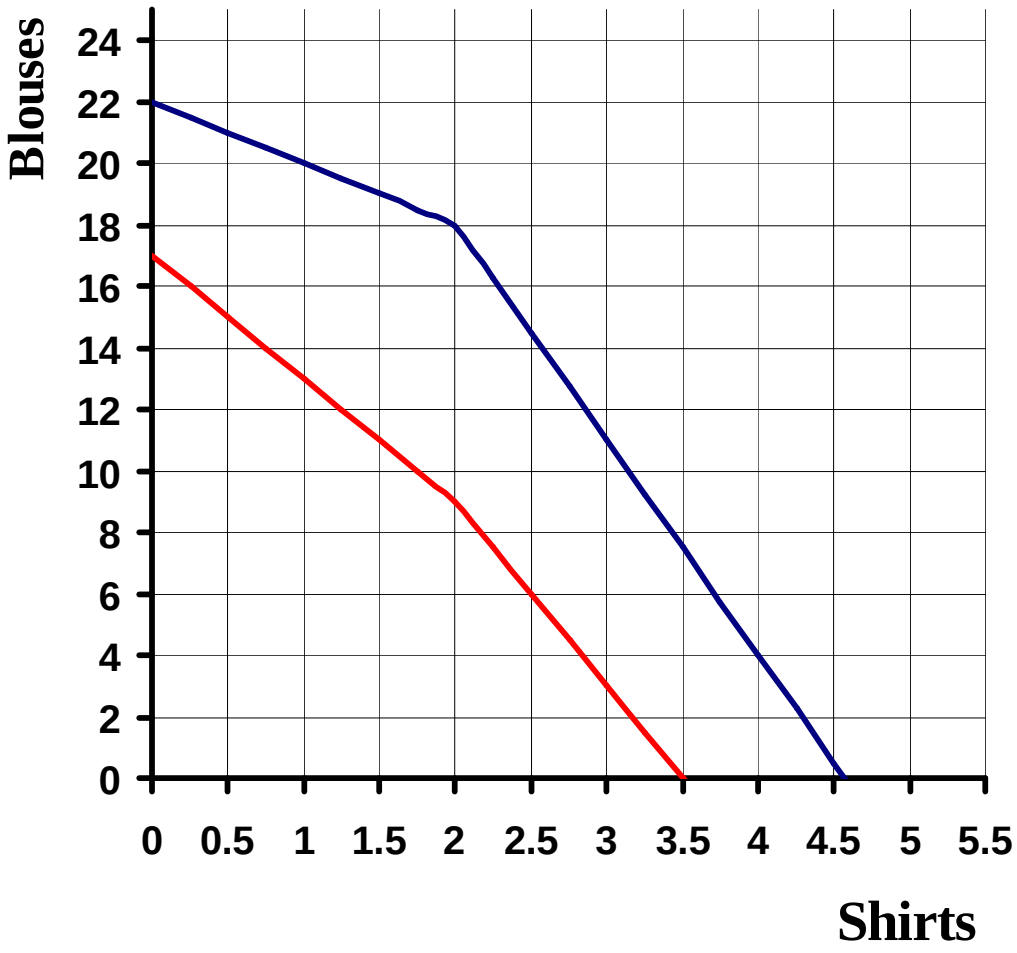

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Germany	32 marks	5 marks

Which of the following is true?

a. Russia has a comparative advantage in producing oil
b. Russia has a comparative advantage in producing wheat
c. Germany has a comparative advantage in producing wheat
d. Russia has a comparative advantage in both goods
e. Both a and c are correct

9. 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	MU_1	MU_2
0	18	0.000	4
1	15	0.181	5.409
2	12	0.320	3.834
3	9	0.499	2.990
4	6	0.787	2.360
5	3	1.461	1.753
6	0	4	0

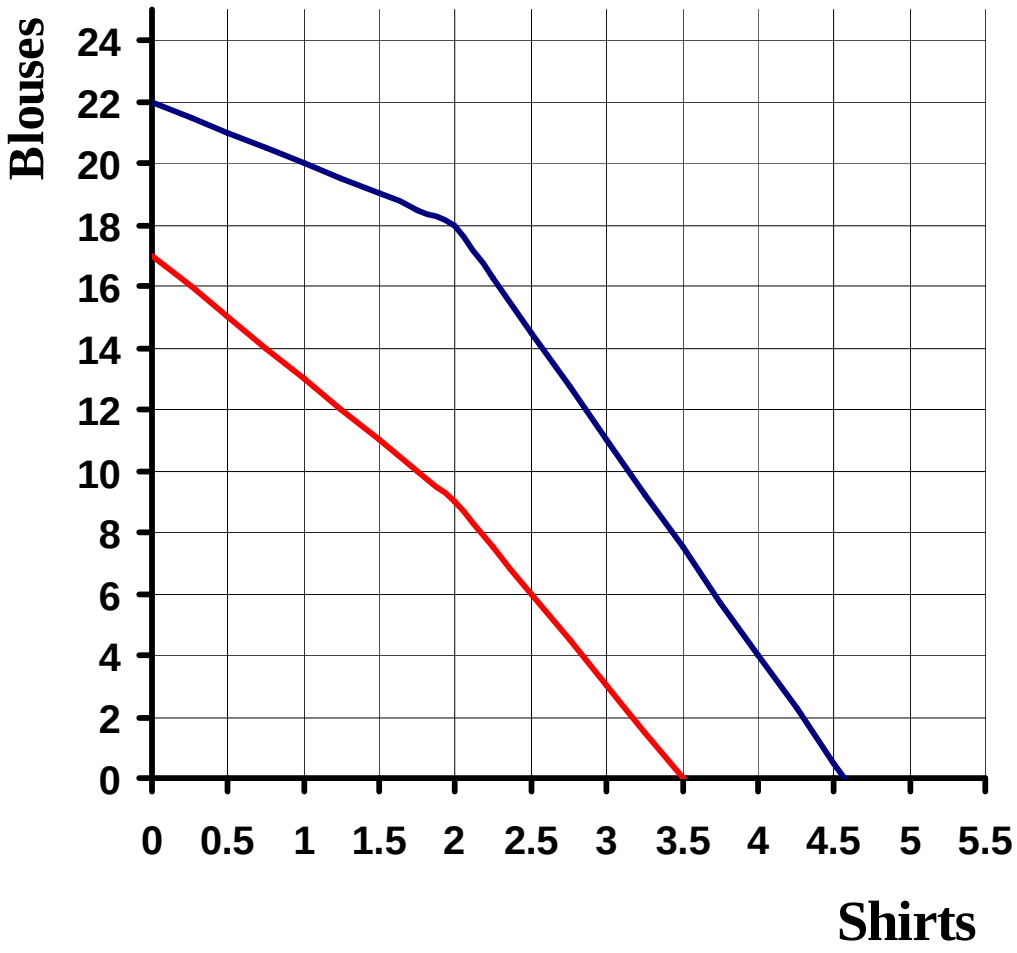
a. $q_2 = 2$, $q_1 = 12$
b. $q_2 = 3$, $q_1 = 9$
c. $q_2 = 5$, $q_1 = 3$
d. $q_2 = 4$, $q_1 = 6$
e. $q_2 = 1$, $q_1 = 15$

10. The diagram on the next page is for use with this question. The two countries are the United States (US) and the United Kingdom (UK). The data is output per day in each country. The outer PPF is for the US.

When each country is producing 1 shirts, which of the following statements is true?

a. The opportunity cost of a shirt in the US is 3 blouses.
b. If the US increased shirt production by 1 unit and the UK decreased shirt production by 1 unit, world blouse production would increase by 2 units.
c. If the UK increased shirt production by 1 unit and the US decreased shirt production by 1 unit, world blouse production would increase by 1 unit.
d. The UK has a comparative advantage in shirts.
e. The opportunity cost of a shirt in the UK is 2 blouses.

Production Possibility Set
Shirts and Blouses



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Quiz 5
Answer Key

Question	Correct Answer
1	a
2	b
3	d
4	d
5	d
6	c
7	d
8	e
9	d
10	b
	0

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1. Ignoring all other goods, if Jessica's marginal utility per pound of bread is 10 and per pound of cheese is 30, her
   a. total utility would be maximized if the price per pound of cheese is triple the price per pound of bread
   b. total utility could be increased by buying more bread and less cheese
   c. total utility could be increased by buying more cheese and less bread
   d. total utility would be maximized if the price per pound of cheese is one-third the price per pound of bread
   e. marginal utility would be maximized if the price per pound of cheese is one-third the price per pound of bread

2. Kate receives the following levels of total utility from different numbers of cars. One car gives 15,000 units, 2 cars together give 27,000 units, etc.

Number	Utility
1	15,000
2	27,000
3	36,000

   If the price of an automobile $15,000, what is the marginal utility per dollar spent on the second automobile?
   a. 1.8
   b. 0.8
   c. 27,000
   d. 12,000
   e. 0.6

3. Jeff spends all his income on warm-up suits and running shoes. The price of a warm-up suit is four times as large as the price for a pair of running shoes. In order to maximize total utility, Jeff should
   a. buy four times as many warm up suits as pairs of running shoes
   b. buy four times as many pairs of running shoes as warm up suits
   c. divide his income equally between running shoes and warm up suits
   d. buy both items until the marginal utility of a warm-up suit is four times the marginal utility of a pair of running shoes
   e. buy both items until the marginal utility of a pair of running shoes is four times the marginal utility of a warm-up suit

4. 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

5. In an equilibrium for an individual consumer,
   a. the slope of the budget line and the slope of the indifference curve are equal
   b. $\frac{\&p_2}{p_1} \text{ ' } MRS_{q_1 q_2} \text{ ' } \frac{? q_1}{? q_2} \text{ ' } \frac{\&MU_{q_2}}{MU_{q_1}}$
   c. $\frac{p_1}{p_2} \text{ ' } \frac{MU_{q_2}}{MU_{q_1}}$
   d. both a and b
   e. a, b, and c

For questions 6 and 7, 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 10,000 barrels of oil. With 500 tons of rice, Indonesia has no oil production, etc.

	Oil	Rice
Indonesia	10,000	0
Indonesia	0	500
Thailand	6,000	0
Thailand	0	400

6. Which of the following statements is true?
   a. Thailand has an absolute advantage in oil production.
   b. Thailand has a comparative advantage in oil production.
   c. Indonesia has a comparative advantage in oil production.
   d. Cannot say which country has an absolute advantage in either product.
   e. Both c and d are correct.

7. If Indonesia produced 4,000 barrels of oil and Thailand produced 3,000 barrels of oil and each used their remaining resources for rice production, what would total rice production be?
   a. 200 tons
   b. 350 tons
   c. 600 tons
   d. 500 tons
   e. 400 tons

8. Use the following table to answer question 8 where the data in the table gives the **cost per unit** for each item.

	Per barrel oil	Per bushel wheat
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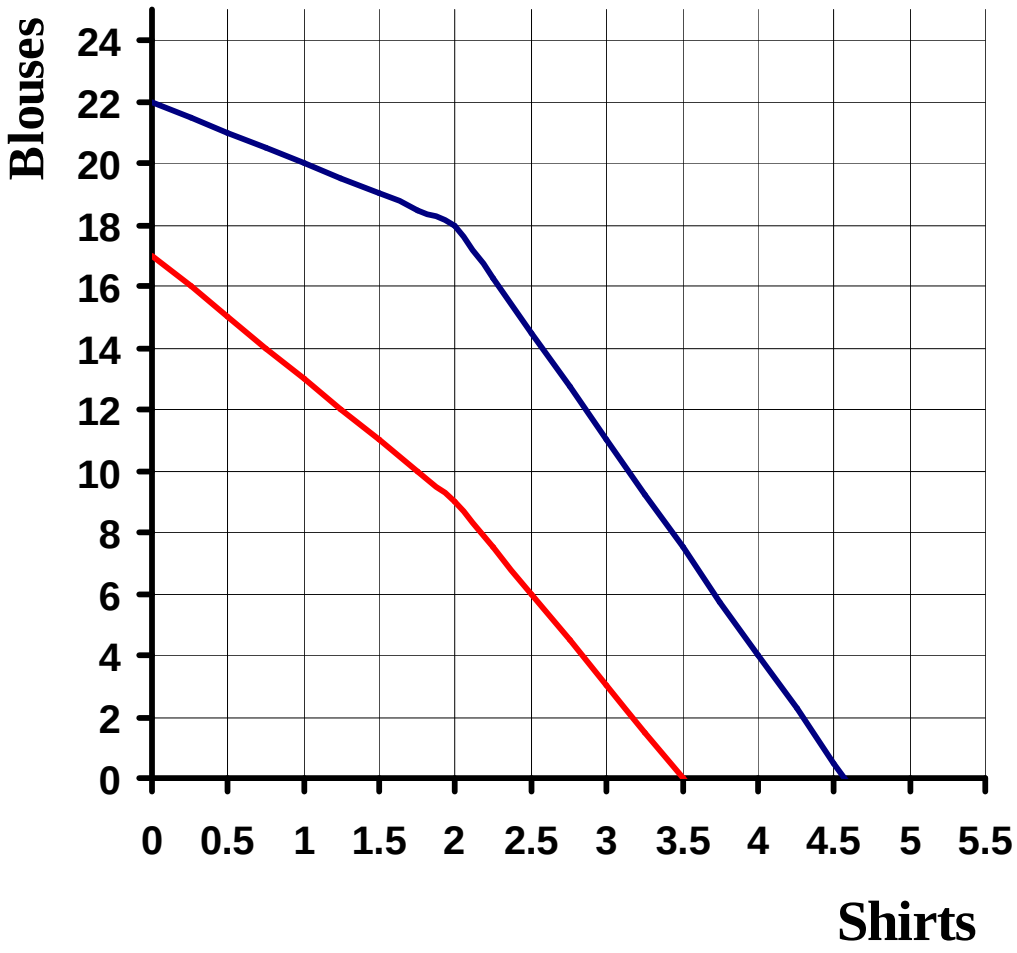
Production Possibility Set
Shirts and Blouses



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3	d
4	d
5	d
6	c
7	d
8	e
9	d
10	b
	0