MPE_AMI2: test_6.1.2012

Jméno a příjmení – pište do okénka	*UČO*	*Číslo zadání*
		20

1 A competitive firm produces output using three fixed factors and one variable factor. The firm's short-run production function is $q = 305x - 2x^2$, where x is the amount of variable factor used. The price of the output is \$2 per unit and the price of the variable factor is \$10 per unit. In the short run, how many units of x should the firm use?

A 37
B 150
C 21
D 75
E None of the above.

2 Ike's utility function is $U(x, y) = 25xy$. He has 12 units of good x and 8 units of good y. Ben's utility function for the same two goods is $U(x, y) = 4x + 4y$. Ben has 9 units of x and 13 units of y.

A Ike prefers Ben's bundle to his own bundle, but Ben prefers his own bundle to Ike's.
B Ben prefers Ike's bundle to his own, but Ike prefers his own bundle to Ben's.
C Each prefers the other's bundle to his own.
D Neither prefers the other's bundle to his own.
E Since they have different preferences, there is not enough information to determine who envies whom.

3 A monopoly has the demand curve $q = 10,000 - 100p$. Its total cost function is $c(q) = 1,000 + 10q$. The government plans to tax the monopoly's profits at a rate of 50%. If it does so, the monopoly will

A increase its price by 50%.
B increase its price by more than 50%.
C recover some but not all of the tax it pays by increasing its price.
D not change its price or the quantity it sells.
E None of the above.

4 If there are only two goods, if more of good 1 is always preferred to less, and if less of good 2 is always preferred to more, then indifference curves

A slope downward.
B slope upward.
C may cross.
D could take the form of ellipses.
E None of the above.

5 Edmund must pay \$6 each for punk rock video cassettes, V. If Edmund is paid \$24 per sack for accepting garbage, G, and if his relatives send him an allowance of \$96, then his budget line is described by the equation

A $6V = 24G$.
B $6V + 24G = 96$.
C $6V = 96 - G$.
D $6V - 24G = 96$.
E None of the above.

6 Suppose that in Enigma, Ohio, klutzes have a productivity of \$1,000 and kandos have a productivity of \$5,000 per month. You can't tell klutzes from kandos by looking at them or asking them, and it is too expensive to monitor individual productivity. Kandos, however, have more patience than klutzes. Listening to an hour of dull lectures is as bad as losing \$250 for a klutz and \$100 for a kando. There will be a separating equilibrium in which anybody who attends a course of H hours of lectures is paid \$5,000 per month and anybody who does not is paid \$1,000 per month

A if $16 < H < 80$.
B if $16 < H < 40$.
C only in the limit as H approaches infinity.
D for all positive values of H.
E if $14 < H < 35$.

7 Harley's current wealth is \$600, but there is a .25 probability that he will lose \$100. Harley is risk neutral. He has an opportunity to buy insurance that would restore his \$100 if he lost it.

A Harley would be willing to pay a bit more than \$25 for this insurance.
B Harley would be willing to pay up to \$25 for this insurance.
C Since Harley is risk neutral, he wouldn't be willing to pay anything for this insurance.
D Since Harley's utility function is not specified, we can't tell how much he would be willing to pay for this insurance.
E Harley would not be willing to pay more than \$16.66 for this insurance.

8 A firm has the long-run cost function $C(q) = 3q^2 + 27$. In the long run, it will supply a positive amount of output, so long as the price is greater than

A $36.
B $44.
C $9.
D $18.
E $23.

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9 The production function is given by $f(x) = 4x^{1/2}$. If the price of the commodity produced is $80 per unit and the cost of the input is $40 per unit, how much profits will the firm make if it maximizes profits?

A $318
B $1,284
C $640
D $625
E $323

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10 An industry has two firms - a Stackelberg leader and a follower. The price of the industry output is given by $P = 84 - Q$, where Q is the total output of the two firms. The follower has a marginal cost of $0. The leader has a marginal cost of $21. How much should the leader produce in order to maximize profits?

A 21
B 24
C 42
D 19
E None of the above.

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11 Miss Muffet insists on consuming 2 units of whey per 1 unit of curds. If the price of curds is $5 and the price of whey is $6, then if Miss Muffet's income is m, her demand for curds will be

A $5c + 6w = m$.

B $6m/5$.

C $5m$.

D $m/5$.

E $m/17$.

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12 Charlie has a utility function $U(x_A, x_B) = x_A x_B$, the price of apples is $1, and the price of bananas is $2. If Charlie's income were $200, how many units of bananas would he consume if he chose the bundle that maximized his utility subject to his budget constraint?

A 25
B 50
C 10
D 100
E 150

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13 In Gas Pump, South Dakota, every Buick owner's demand for gasoline is $20 - 5p$ for p less than or equal to 4 and 0 for $p > 4$. Every Dodge owner's demand is $15 - 3p$ for p less than or equal to 5 and 0 for $p > 5$. Suppose that Gas Pump has 100 Buick owners and 100 Dodge owners. If the price of gasoline is $4,50, what is the total amount of gasoline demanded in Gas Pump?

A 300 gallons
B 75 gallons
C 225 gallons
D 150 gallons
E none of the above.

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14 The inverse demand function for grapes is described by the equation $p = 518 - 5q$, where p is the price in dollars per crate and q is the number of crates of grapes demanded per week. When $p = \$38$ per crate, what is the price elasticity of demand for grapes?

A -190/96
B -5/518
C -5/96
D -96/38
E -38/480

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15 Bella's budget line for x and y depends on all of the following except

A the amount of money she has to spend on x and y.

B the price of x.

C her preferences between x and y.

D the price of y.
E None of the above.

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16 If a firm moves from one point on a production isoquant to another point on the same isoquant, which of the following will certainly not happen?

A A change in the level of output
B A change in the ratio in which the inputs are combined
C A change in the marginal products of the inputs
D A change in the rate of technical substitution
E A change in profitability

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17 Goods 1 and 2 are perfect complements and a consumer always consumes them in the ratio of 2 units of good 2 to 1 unit of good 1. If a consumer has an income of $300 and if the price of good 2 changes from $5 to $6, while the price of good 1 stays at $1, then the income effect of the price change

A is 6 times as strong as the substitution effect.
B does not change the demand for good 1.
C accounts for the entire change in demand.
D is exactly twice as strong as the substitution effect.
E is 5 times as strong as the substitution effect.

18 The following relationship must hold between the average total cost (ATC) curve and the marginal cost curve (MC):

A If MC is rising, ATC must be rising.

B If MC is rising, ATC must be greater than MC.

C If MC is rising, ATC must be less than MC.

D If ATC is rising, MC must be greater than ATC.

E If ATC is rising, MC must be less than ATC.

19 An industry has 100 firms. These firms have identical production functions. In the short run, each firm has fixed costs of $200. There are two variable factors in the short run and output is given by $y = (\min\{x_1, 4x_2\})^{1/2}$. The cost of factor 1 is $5 per unit and the cost of factor 2 is $5 per unit. In the short run, the industry supply curve is given by

A $Q = 8p$.

B $Q = 10p$.

C $Q = 580p^{1/2}$.

D the part of the line $Q = 50(\min\{5, 20\})$ for which $pQ > 200/Q$.

E None of the above.

20 According to the first theorem of welfare economics:

A every competitive equilibrium is fair.

B if the economy is in a competitive equilibrium, there is no way to make anyone better off.

C a competitive equilibrium always exists.

D at a Pareto optimum, all consumers must be equally wealthy.

E None of the above.

21 A monopolist has decreasing average costs as output increases. If the monopolist sets price equal to average cost, it will

A produce too much output from the standpoint of efficiency.

B lose money.

C produce too little output from the standpoint of efficiency.

D maximize its profits.

E face excess demand.

22 An orange grower has discovered a process for producing oranges that requires two inputs. The production function is $Q = \min\{2x_1, x_2\}$, where x_1 and x_2 are the amounts of inputs 1 and 2 that he uses. The prices of these two inputs are $w_1 = \$5$ and $w_2 = \$10$, respectively. The minimum cost of producing 160 units is therefore

A $2,000.

B $2,400.

C $800.

D $8,000.

E $1,600.