MPE__AMI2: Sample test

Jméno a příjmení – pište do okénka	*UČO*	*Číslo zadání*
		1

1 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

2 All firms in a perfectly competitive industry have the same cost functions and increasing marginal cost functions. If the price is above the average variable costs (at the optimal quantity) in the short-run, than in the long run

*A both the quantity produced by each firm and the market price decrease.
B both the quantity produced by each firm and the market price increase.
C the quantity produced by each firm increases and the market price decreases.
D the quantity produced by each firm decreases and the market price increases.
E will be no change in the quantity produced by each firm and in the market price.

3 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.

4 The inverse demand for rides of one visitor of an amusement park (with only this one attraction) is $p = 50 - q$ and marginal cost of one ride is 10 CZK. If the amusement park uses a two-part tariff, then apart from the price for each ride the consumer will pay an entry fee of

A 200 CZK.
B 450 CZK.
*C 800 CZK.
D 0 CZK.
E 1250 CZK.

5 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

6 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.

7 Martin consumes apples A and pears P. If we draw pears on the vertical axis, what is the slope of the indifference curve $P = 4/\sqrt{A}$ in the point $(A, P) = (4, 4)$?

A -1/8
B -1/6
*C -1/4
D -1/2
E -1

8 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.

9 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 $m/17$.

10 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.

11 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

12 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.

13 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.

14 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

15 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.

16 Choose the true statement. If more statements are true, choose the answer marked by **(P)**. A consumer buys two goods. Good X is measured at the horizontal and good Y at the vertical axis. If the budget line has a slope lower than -1 (e.g. -2), then

A the consumer has a higher utility from good X than from good Y.

B the price of good X is lower than the price of good Y.

C the consumer has a lower utility from good X than from good Y.

*D the price of good X is higher than the price of good Y.

E **(P)** More than one of the other statements are true.

17 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.

18 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.

19 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.

20 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.

21 The conclusion that the indifference curves representing distinct levels of preference cannot cross follows from the assumption of

A reflexivity.
B convexity.
C equality.
D monotonicity.
*E transitivity.

22 The short run market supply curve in a competitive market

A is decreasing if there are increasing returns to scale.

B corresponds to a horizontal line at the level of the minimum of average costs.

C is influenced by the possibility of entry.

*D is a horizontal sum of the short run supply curves of individual firms.

E More than one of the above answers is correct.

23 The income elasticity of demand is equal to the

*A percentage change in quantity divided by the percentage change in income.

B percentage change in income by the percentage change in quantity.

C measures the slope of the Engel curve.

D depends on the units that measure the quantity and income of the given good.

E More than one above answer is correct.

24 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.

25 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.

26 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.

27 Dr. Erasmus needs for production of a study material S always 1 hour of work time and 2 hours of photocopier time. One hour of work W costs 300 CZK and one hour of photocopier C costs 200 CZK. At the current input prices the cost function is

A $c(S) = 200S$.

B $c(S) = 300S$.

C $c(S) = 500S$.

*D $c(S) = 700S$.

E $c(S) = 800S$.

28 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.

29 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.

30 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 $14 < H < 35$.