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3. The upward shift of the total product curve from TP1 AND TP2 is unlikely to be caused by a) employing more labour b) better organization of the existing labour force c) a large and more efficient tractors are employed d) a high yielding strain of wheat.

4. If a single-product firm diversify into new products and markets, the action is unlikely to increase the a) risk in demand fluctuations b) problems of management c) transport cost d) production cost.

5. Which of the following does not affect the supply of labor? A) The level of employment b) the age structures of the population c) the government legislature concerning the maximum working hours of the week d) individual attitudes to labour.

6. Which of the gains for a firm from a merger is also in the national interest? a) Economies of scale b) elimination of competition c) diversification of stabilized turn over d) monopoly profits.

7. The elasticity of demand for a factor will be greater a) the greater the ease with which other factors may be substituted for it b) the less the proportion of the cost of the factor in the total cost of all factors c) the lower the price elasticity of demand for the product d) the less the elasticity of demand for the complementary factor.

8. Given that the marginal propensity to save is 0.25 and that government expenditure is held constant, by how much most taxes be cut to in order to cause consumer expenditure to increase by 600MF assuming that all things are equal a) 100MF b) 150MF c) 200MF d) 600MF

9. Only one of these statements does not restrict the creation of credits to commercial banks a) the amount of collateral available b) the consumer demand for credit c) the notes issued d) the central bank

10. Which of these would you consider as a measure of monetary policy a) an increase in 10% in the selective employment premium b) a

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minimum subsidy c) a tightening of hire purchase controls d) an increase spending by the government departments?

MINOR GEOGRAPHY FOR ECONOMICS

- 1. Which of the following by origin is not an igneous rock?
 - A) Sill B) Dyke C) Laccolith D) Lava plain E) Gypsum
- 2. Some mountains owe their origin mainly to denudation. Such mountains are called:

A. Horsts B. Fold mountains C. Mesas D. Volcanoes E. Residual Mountain

- 3. Some planes are formed by erosion, some by deposition and some result from a fall in sea level. Which of the following plains is of erosional origin?
- A) Coastal plains B. Deltaic plain C. Loess plain D. Pen plain E.Boulder clay
- 4. Large masses of volcanic rocks often form the rocks of the Fold Mountains. These volcanic rock masses are called.
- A) Sill B. Laccolith C) Volcanic cones D. Dykes E. Batholith
- 5. Crater lakes are most likely to occur in.
 - A) Areas of active volcanicity
 - B) Regions where subsidence is taking place
 - C) Regions of extinct volcanoes
- D) Heavily faulted region
- E) Area of fold mountain
- 6. Which of the following is not associated with earthquakes

A. Body waves C. Richter scale B. Seismograph D. geyser E. Focus

7. Which of the following is the product of volcanicity?

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- A. Rift valley lake B. escarpment C. Fold mountain D. Ocean trench E. Pleg dome.
- 8. The process by which the sides and the bed of a river channels are worn away is called

A. Solution B. Corrosion C. Attrition D. Corrasion E. Hydraulic Action

- Which of the following features is evident that ice mass can move uphill?
 A. Rock slep B. Jee fall C. Slip D. Hangig valley E. The lip of a cirque
- 10. Which of the following lakes does not form depositional factors?A. PlaysB. TarC. Ox bow lakesD. DeltaE. Lagoon

Section B: Structural Questions: Physical Geography Fill the blank spaces 11 – 15

11. The normal lapse rate is best described as

12. A hygrometer is an instrument used for finding

13. What type of clouds have the highest vertical extent.....

- **14.** Stalactics and uvala are associated with which type of rock.....
- **15.** Tsuananis are associated with process.

Answer the following briefly: 16 – 20

With the aid of diagrams describe and explain the characteristics and mode of the following.

16. Artesian well 17. Escarpment

18. Ox - box lake

19. Orographic rain

20. Hanging valley

MATHEMATICS MINOR FOR ECONOMICS

- 1. If a shirt and a pair of trousers cost 11, 000FCFA. The pair of trousers costs 2000FCFA. More than the shirt. The cost of the pair of trousers is
 - A) 15000FCFA B) 2000FCFA C) 9000FCFA D) 6500FCFA Let cost of a pair of trousers be y and that of a shirt be x But cost of cost of a pair of trousers is 2000FCFA more than that of a shirt

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Summing the cost of a pair of trousers and shirt we've $x + y = 11000 \dots (1)$ Cost of shirt is 2000FCFA less than that of trousers Then we have $x - 2000 = y \Longrightarrow x - y = 2000 \dots$ (2). Solving (1) and (2) Simultaneously we have $\begin{cases} x + y = 11000 \dots (1) \\ x - y = 2000 \dots (2) \end{cases}$ $\implies \begin{cases} (1) \implies x = 11000 - y \\ subst. x \text{ into } (2) \implies 11000 - y - y = 2000 \implies 11000 - 2y = 2000 \dots (3) \end{cases}$ From (3) we have $2y = 11000 - 2000 = 9000 \implies y = \frac{9000}{2} = 4500$ Then the cost of the pair of trousers is y + 2000 = 4500 + 2000 = 6500 FCFA. Thus **D** What is the terms in a sequence to be 1, 8, 27, 64... 2. B) 75 C) 125 D) 100 A) 78 3. Which of the following is true ? A) $0 \subseteq \{1, 2, 3\}$ B) $\{1\}\epsilon\{\{1\}, \{2\}\}\ C$ $\{2\} = 2\ D\{2, 3\}\epsilon\{1, 2, 3\}$ 4. given the universal set, A a subset and A^c the complement of A. which of the following is false ? $A \cap B = A^c \quad B) \quad A \cap A^c = \{ \} \quad C) \quad A \cup U = U \quad D) \quad (A^c)^c = A$ 5. Given that $f: x \to 2x + 3$ and $g: x \to \frac{x-3}{2}$. The value of $(f^{\circ}g)(3)$ is B) 8 C) -2 D) 9 We have $(f^{\circ}g)(x) = 2\left(\frac{(x-3)}{2}\right) + 3 = x \implies (f^{\circ}g)(3) = 3$ A) 3 6. A relation \Re on a set is set to be symmetry if x is related whenever y is related to x. Which of the following relations are symmetric? A) "is a parent of" B) "is a cousin of" C) "is a brother of" D) "is an aunt of" 7. If g(x) = 3xx - 7, then g(2) is D) 9 C) 6 A) 13 **B) -1** We have g(2) = 3(2) - 4 = 6 - 7 = -1, by substituting 2 where we have x in g(x) = 3x-78. Simplify $5^7 x 5^4$ leaving your answer in index form B) 5^{28} A) 5^3 C) 5⁻³ D) 5¹¹ From the law of indices, by multiplication we add the powers of the terms with same base. Here we add $5^{7+4} = 5^{11}$ 9. Factorize the expression 2xy - x + 2y - 1A) (x-1)(2y+1) B) (x+1)(2y+1) C) (x-1)(2y-1) D) (x+1)(2y-1)We have 2xy - x + 2y - 1 = x(2y - 1) + (2y - 1) = (x + 1)(2y - 1)**10.** Bih is 4 years older than Nije, 6 years ago Bih was twice as old as Nije. Bih's age is A) 16years B) 18years C) 15years D) 14year 6 years ago Bih was twice as older as Njie means by then Bih was 8 years and after the 6 years Biy becomes (8+6) years = 14years 11. Simplify $\frac{b^2+bx}{b+x}$ A) b We have $\frac{b^2+bx}{b+x} = \frac{b(b+x)}{b+x} = b$ B) b + xC) *x* D) *b* + 1 12. The solution of the inequality 3 - 2x < 5 is A) x > -1B) *x* < −1 C) *x* > 1 D) *x* < 1 We have $3 - 2x < 5 \implies -2x < 5 - 3$ by subtracting 3 from both sides of the equations When dividing by a negative number we change the equality sign So $x > \frac{2}{-2} \Longrightarrow x > -1$ 13. Sarah receives a dividend that equals 11% of the value of her investment. Given that she had 102080CFA. What was her investment? A) 828 000CFA B) 928 000FCA C) 820, 000CFA D) 828, 000FCA 56

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Let her investment be u and then we have $\frac{11}{10} u = 102080$
Let ner investment be y, and then we have $\frac{100}{100}y = 102080$
$\Rightarrow y = \frac{100 \times 102080}{11} = 928000 \text{CFA}$
14. A family bough t 49.5 yards of material for a celebration. It was decided that the material will be cut into
pieces of 2.25 yards long. The number of pieces obtained were A) 44 B) 22 C) 17
D) 35
Number of pieces obtained is given by $\frac{49.5}{2} = 22$ Thus
B) 22
interact ofter Average is
$\begin{array}{c} \text{Interest after 4 years is} \\ \text{A)} 000 0000 \text{CEA} \text{D)} 1 200 000 \text{CEA} \text{C)} 1 500 000 \text{ CEA} \text{D)} 1 250 000 \text{CEA} \\ \end{array}$
A) 500, 000, 0000CFA B) 1,200, 000CFA C) 1,500, 000 CFA D) 1, 250, 000CFA
student did correctly, to the perfect hold number
17 A box contains 5 black halls and 4 white halls. Two halls are drawn from the box without replacement. The
probability that they are all black is A) 3/81 B)16/81 C) 5/12 D) 6/24
18 A large rocket is launched into orbit. The probability of failure at stage one is 3/10 in stage two is 2/5
and stage three is 1/3. The probability has a flight is
A) $9/10$ B) $2/3$ C) $12/25$ D) $9/25$
The marks obtained by 10 students in a test are 5, 8, 6, 3, 5, 4, 3, 5, 1, and 9. Using this information answer
questions 19, 20 and 21
19. The modal mark A) 4.9 B) 4.5 C) 3 D) 5
20. The median mark A) 4.9 B) 4.5 C) 3 D) 5
21. The mean mark A) 4.9 B) 4.5 C) 3 D) 5
22. The mean salary of 24 workers is 90, 000 FCFA. If another worker is recruited with a salary of
96000FCFA. The mean salary of the 25 workers will be
A) 96000FCFA B) 89, 000FCFA C) 170,000FCFA D) 88, 500FCFA
23. A person 1.8m tall cast a shadow 1.2m long when a nearby building has a shadow of 2.8m. the height of the
house is A)12m B) 3m C) 9m D) 8m
24. A circle has a circumference of 12π m. The radius of the circle is
A) 6m B) 12m C) π m D) 2π
Circumference of a circle is $2\pi r = 12\pi m \implies r = \frac{12\pi}{2}m = 6m$
A floor has dimension of 5m by 6m. It's to be tiled with square tiles each of side 25cm. the cost of one tile
is 400 FRS. Using the information answer questions 25 and 26
25. The number of tiles needed to completely tile the floor is
A) 4000 B) 48000 C) 5000 D) 4500
Area of the floor is $5m x 6m = 30m^2 = 30 x 10^6 cm^2$
Area of each tile is 25 cm $\times 25$ cm $= 625$ cm ²
Number of tiles needed to tile the floor is given by $\frac{area \ of \ floor}{area \ of \ floor} = \frac{30 \times 10^6 \ cm^2}{48000 \ tiles}$
area of each tile 625cm ²
26. The amount of monoy needed to huy the tiles is
A) 100 000ECEA B) 10 200 000ECEA C) 200 000ECEA D) 180 000ECEA
Friday May 16 2014
Amount of money needed is given as $A = N$ umber of tiles times unit price
Through of money housed is given as $T = Transfer of thes three three$
= 48000tiles x 400FCFA/tile = 19. 200. 000FCFA
27. The gradient of a straight line given by the equation $2x - 4y = 8$ is
A) 2 B) $-1/2$ C) -2 D) $1/2$

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We have $y = \frac{1}{2}x - 2$ and comparing with the general form y = mx + c, we have $\mathbf{m} = \frac{1}{2}$

28. Let A (-1, 2) and B (5, 4) be two points. The midpoint of the segment AB is A) (1, 3) B) (3,2) C) (2, 3)

We have $M_{x,y} = \left(\frac{-1+5}{2}, \frac{2+4}{2}\right) = (2, 3)$

29. Let $S_n = n(n + 2)$ be the sum of the first nth term of a sequence. The value of the tenth term is A) 30 B) 28 C) 22 D) 108

ECONOMICS 2010

D) (2,6)

- Which of the following would you expect to shift the supply curve for household paints

 a) an increase in household marketing activities
 b) an increase rate of economic growth
 c) an increase in the oil price
 d) increase labour cost.
- An increase in the demand for a good will tend to cause a) an increase in the equilibrium price and quantity b) an increase in the equilibrium price and a decrease in the equilibrium quantity c) a decrease in the equilibrium price and quantity.
- 3. All of the following are determinants of supply except a) price b) income levels c) objectives of the firm d) level of technology.
- 4. If an increase in the price of blue jeans leads to an increase in the demand for tennis shoes then blue jeans and tennis shoes are; a) complements b) substitutes c) inferior goods d) normal goods
- Stagflation occurs when the economy experiences; a) rising rice and rising output b) rising price and falling output c) falling prices and falling output d) falling prices and falling output.
- 6. For an economy as a whole, income equals expenditure because the income of the seller equals the expenditure of the buyer a) trueb) false
- 7. An example of transfer payments is a) profits b) rents c) unemployment benefits d) government purchases e) wages
- 8. Gross domestic product can be measured as the sum of a) all final goods and services, intermediate goods, transfer payments and rents b) consumption, investment, government purchases and net exports c) consumption transfer payments and wages.
- 9. If your grandparents buy a newly built retirement home, this transaction would affect a) investmentb) net exports c) government purchasesd) consumption.
- 10. If a cobbler buys leather for 1000F and thread for 500F and uses them to sell 5000F worth of shoes to consumers, the output to GDP is a) 500F
 b) 1000F
 c) 6500F
 d) 5000F
- 11. Consumer surplus is the area a) below the demand curve and above the price b) above the supply and below the price c) above the demand curve and below the price.
- 12. If a benevolent social planner chooses to produce less than the equilibrium quantity of a good, then a) total surplus is maximized b) the value placed on the last unit of production by buyer exceeds the cost of production c) producer surplus is maximized d) consumer surplus is maximized.

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- 13. An increase in the price of a good along a stationary supply curve a) increases producer's surplusb) decreases producer's surplusc) improves market equity.
- 14. Indifference curves that are convex to the origin reflect a) an increase marginal rate of substitutionb) a decrease rate of substitutionc) a constant marginal rate of substitution.
- 15. Demand for a good is likely to be more elastic a) the smaller the fraction of income absorbed by the good b) in the short run than in the long run c) the greater the number of available substitutes for the good.
- 16. When the central bank lowers the reserve requirements, a) banks will create more moneyb) people will deposit more moneyc) banks must hold less cash.
- 17. Which of the following is the more likely benefit to a debtor a) unanticipated deflationb) anticipated deflationun anticipated inflation.
- 18. What is autonomous consumption?
- 19. The rate of which a firm can substitute one factor for another while still producing the same level of output is known as_____
- 20. The sum of the quantities supplied by all the firms in the market at each and every price is called_____
- 21. When you add the value of all final sales what are you calculating?
- 22. Goods use to produce other goods is known as

Answer true or false in question 23 to 26

- 23. The large the MPC the smaller the resulting multiplier.
- 24. A price ceiling in an imposed price above the equilibrium.
- 25. When demand and supply both increase equilibrium price will also increase.
- 26. Sometimes an increase in income caused the demand for a good to fall.
- 27. A 20% share, a face value of 1000F has a market value of 1600F. Calculate its yield.
- 28. See 2006 q32
- 29. See 2006 q33
- 30. See 2006 q34
- 31. See 2006 q35
- 32. See 2004 q10
- 33. See 2004 q11
- 34. See 2004 q12
- 35. See 2004 q13
- 36. Economic growth is depicted by a) a shift in the production possibility frontier outwardb) a movement along a possibility frontier towards capital goodsc) a shift in the production possibility frontier inward.
- 37. Which of the following will not shift a country's production possibility frontier outward a) an advance in technology b) an increase in the labour force c) an increase in the capital stock d) a reduction in unemployment.

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- 38. Which of the following is part of the opportunity cost of going on holidays a) the money you spend on a theater show b) the money you could have made if you stayed at home and work c) the money you spend on airline tickets.
- 39. Positive statements are a) macroeconomics b) microeconomics c) statements of descriptions that ca be tested d) statements of prescriptions that involve value judgments.
- 40. Which of the following statements about microeconomics and macroeconomics is not true? a)the study of every large industry is a topic within macroeconomics b) macroeconomics is concern with economy-wide phenomena c) microeconomics is a building block for macroeconomics d) micro economics and macroeconomics cannot be entirely separated.

MINOR MATHEMATICS FOR ECONOMICS

- 1. The value of 6.0284 to the nearest hundredth of a kg is
 - A) 6.03 B) 6.00 C) 6.028 D) 6.029

From the left we count the decimal point two numbers to the right and since the after(to the right) is greater than 5, we round up to 1 and add to the number(2) before to have 3. Thus 6.0284 become 6.03. Hence

2. The price of a chalk box is 178500FACA. This price to 3 significant figures is **A)** 179frs B) 178500frs C) 17900frs D) 178frs We count from the left three numbers, since the next number is greater than 5, we round up to 1 and add the results to the previous 8 to have 9 and All the numbers to right are replaced by zeros. Hence 17900 A) 17900frs 3x = 2y - 53. The values of x and y that satisfy the equations 7y = 2x - 9 and D) -1 and -1 **A**) 1 and -1 B) -1 and 1 C) 1 and 1 $(2x - 7y = -9 \dots (i))$ Arranging the equations we have $(3x - 2y = -5 \dots \dots (ii))$ Multiplying (i) by 3 and (ii) by 2 we have $\begin{cases} 6x - 21y = -27 \dots \dots (iii) \\ 6x - 4y = -10 \dots \dots (iv) \end{cases}$ Subtracting (iii) from (iv) we have $17y = 17 \Rightarrow y = 1$, substituting y = 1 into (i) we have $2x - 7(1) = -9 \Rightarrow x = -1$. Thus B) -1 and 1 4. Simplify the expression $\left(\frac{6x^2+2xy}{5x}\right)\left(\frac{15x^2}{3x+y}\right)$ C) 6x² **A**) 6*x* B) 5x D) 5zx $\frac{2x(3x+y)}{5x} \cdot \frac{(15x^2)}{(3x+y)} = (2x)(3x) = 6x^2$, by factorization and simplification. Thus C) $6x^2$ 5. Each interior angle of a regular decagon is B) 100 A) 36 C) 150 D) 144 A) 36 6. A man can make 1500blocks in 4days. In 9 days he will make A) 3000 **B) 3375** C) 3500 D) 4500blocks In 4days he made 1500blocks 60



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14. Let OA = $2\vec{i}$ -	$-3\vec{j}$ and $\mathbf{OB} = 4\vec{i}$, the ve	ctor BA is		
A) 2i - 3j	B) 2i+3j	C) 6i	-3j D) $2i + j$	
We have AB	$= -OA + OB \Longrightarrow BA =$	-AB = OA - OB =	$= [-(2\vec{i} - 3\vec{j}) + 4\vec{i}] = 2\vec{i} + 3\vec{j}$	
15. Given that log ₂ .	x = 5, then the value of	x is		
A) 32	B) 10	C)8	D) 16	
16. The value of x t	hat satisfies the equation	$3^{2x+1} = 27$ is;		
A) 1	B) 13	C) 3	D) 4	~ ~
We have 3 ²	$x^{x+1} = 27 = 3^3 \Longrightarrow 2x + 3^3$	$1 = 3 \Leftrightarrow x = 1$	A) 1	Bo

17. On a map whose scale is 1:50 000, a rectangular reserve is measures 10cm by 75cm. the actual perimeter of the reserve in km is

A) 37.5km

C) 17.5km D) 175km

A) 37.5

The scores obtained in a certain game were recorded as follows: use it to answer 18 and 19

Score	0	1	2	3	4	5	6
Frequency	6	7	8	9	5	2	3

19. The median of the distribution is A) 3 **B**) 2 **C) 8**

B) 357km

20. A card drawn at random from a pack of 52 ordinary playing cards. What is the probability that it's a card? C) 1/13 D) 1/12 A) 1/20 **B) 1/4**

The table below is used to draw a pie chart

	Item Type	А	В	С	D			
	Frequency	48	104	72	Z			
	Sector Angle	72	Х	108	у			
Use the information in this table to answer questions 21, 22, and 23								
21. The value of	of x is A) 156	B) 16	C) 144	D) 24				
22. The value of	of y is A) 156	B) 16	C) 144	D) 24				
23. The value	of z is A) 24	B) 36	C) 48	D) 16				
Questions 24, 25 and 26 are based on the following information:								
The real valued functions f and g are defined by								

 $f: x \rightarrow 2x + 1 \text{ and } g: x \rightarrow x^2 - 3$ 24. T

The value of
$$g(-1)$$
 is A) -4 B) -2 C) 4 D) 2
We have $g(-1) = (-1)^2 - 2 = -2$ Thus B

We have $g(-1) = (-1)^2 - 3 = -2$, Thus B 25. the value of f'(3) is A) 7 **B)**1 C) 6

Let
$$y = 2x + 1 \Longrightarrow x = \frac{y-1}{2} \Leftrightarrow f': x \to \frac{x-1}{2}$$
 and thus $f'(3) = \frac{3-1}{2} = 1$. Thus **B**

26. The composition of the function $(f^{\circ}g)(x)$ is

A)
$$(2x+1)(x-3)$$
 B) $(2x+1)^2 - 3$ C) $2(x^2+1) - 3$ D) $2(x^2+1) + 1$
 $(f^\circ g)(x) = 2(x^2-3) + 1$, thus

ECONOMICS 2009

1. According to you why will more of a good be purchase at lower price than when prices are high?

D) 3