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This exam summary is produced by Glorious New Dawn Educational consults, the aim is to enhance students learning, reading and understanding of BUS 105, please note that this summary is not produced for examinational malpractices

SOME OF THE REASONS WHY STUDENTS FAIL

1. **Wanting free materials:** Most students are not ready to spend to get quality reading materials to enhance their learning, please note that nothing valuable comes for free
2. **Time factor:** Don't stay too long on a particular question remember time counts during examinations
3. **Anxiety:** Don't be in a hurry to start neither be in a hurry to finish, remember you paid for both Course and exam registrations also Poor grades will have a negative effect on your CGPA**.**
4. **Look into your spelling carefully e.g Singular and Plural, sentence case: for example, a question given as "_____ is the total way of life. Your Answer should be CULTURE not CULTRES, also avoid the use of synonyms during E-exams or CBT, the answers have been programmed on the computer and you might be marked wrong even when you gave the correct answer just because you used synonyms**
5. **POOR TMA GRADES:** Ensure you don't score below 30/30 in your TMA as this will boost your morale during examinations, poor TMA grades will put you under a lot of pressure during examinations, for TMA assistance you can contact us on 07033722484

One important instrument for communication but not easily mentioned is the use of_____.
figures

_____are major instrument used for expression especially where large data are involved.
Figures

Figures are major instrument used for_____
expression

Figures are major instrument used for expression especially where_____are involved.
large data

Figures are major instrument used for expression especially where large _____are involved.
data

_____makes expression very concise in explanation and interpretation.
Figures

_____is the science of numbers and shape.
Mathematics

Mathematics is the science of_____and shape.
numbers

Mathematics is the science of numbers and_____.
shape

Mathematics is the science of_____and_____.
numbers and shape

The use of symbols or letters as an aspect of Mathematics is referred to as_____
Arithmetic algebra

_____is a letter that is made to represent a statement or an argument.
Symbol

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_____is the science of reasoning or explaining events.
Logic

Logic is _____
the science of reasoning or explaining events

_____ could be defined as the study and analysis of a mathematical proposition as to ascertain the Truth Value of the proposition.
Logic

The_____of a proposition is termed "T" if it is true and "F" if it is false.
TRUTH VALUE

The following are objectives of symbolic logic reasoning
1. Logical reasoning could be used to ascertain or analyze complicated business argument.
2. It could be used to decode equivalent, negation or contradictory propositions.
3. It could be used to analyze a statement.
4. It could be used to form composite statements from simple ones using logical connectives.
5. It could be used to ascertain the Truth Value of a statement.

A_____in the context of logic is a declarative sentences or an expression of words which are either true or false, but cannot assume both.
statement

A statement is also called_____
Proposition

There are_____types of statements
Two

There are two types of statements:_____and_____
simple and composite

Example of Simple Statement
1. Mr. Alakija is the H.O.D
2. I am an undergraduate
3. Rose flower is red
4. 2 + 5 = 4
5. Accra is in Nigeria

A_____statement is the use of connectives to combine two or more simple statements to form just one.
composite

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Example of Composite Statements
1. Mr. Alakija is the H.O.D and I am an under graduate
2. Accra is in Nigeria implies that 2 + 5 = 4
The_____of a composite statement is determined by the Truth Value of each of the simple statements and the way they are connected.
Truth Value

_____ are expressions; phrases or symbols that are made used of, to join (combine) two or more simple statements together in order to form a composite statement.
Connectives

Examples of connectives used in logic are:

	Name	Meaning	Symbol
i.	Conjunction	"and"	ə
ii.	Disjunction	"OR"	(
iii.	Negation	"NOT"	~
iv.	Conditional	"If …. Implies that"	□ or ®
v.	Bi – implication	"if and only if"	™

The negation of contradiction is a _____
tautology

The negation of tautology is a_____.
contradiction

_____ is said to be formed when the conjunction of a set of simple mathematical statements gives rise to another mathematical statement (conclusion).
An Argument

An argument may be_or_.
valid or invalid

Any logical statement can be represented by the letter _____
p, q, r…

The fundamental property of a logical statement is that_____
it is either true or false but not both

The_____of p and q is denoted by p (q.
disjunction

If (p) is a given proposition, its_____is denoted by (~ p) meaning it is not (p), or it is false that (p).

negation

The intersection or the union of two similar sets is the same set.
True

q is a conditional statement, then (if q then p) is called the□If p_____of the conditional statement.
converse statement

_____ is a mathematical model which allows the enumeration, display, manipulation and processing of both small and large volumes of vectors (numbers in this context) easily; in order to achieve a desired result.
Matrix algebra

A_____is a rectangular array of numbers with reference to specific rules governing the array.
matrix

A matrix is _____
a rectangular array of numbers with reference to specific rules governing the array

The dimension of a matrix is the size of the matrix, which is denoted by, (m x n) called_____matrix, where m is the number of rows and n is the number of columns.
m by n

Any matrix, which has the same number of rows and columns, is called_____
a square matrix

Any matrix of dimension (m x n) with all its elements equal to_____.
zero

_____is a matrix in which all its diagonal elements are one (1) where all other elements are zero.
Identify matrix

_____is a matrix that has elements only on its diagonal.
Diagonal matrix

The_____of a matrix is the interchanging of its row with the column.
transpose

The_____is the interchanging of its row with the column.
transpose of a matrix

Let matrix A be (m x n), then matrix A T is (n x m) called _____

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the transpose

_____is a matrix in which its transpose is equal to itself.
Symmetric matrix

Two matrices are said to be_____if their corresponding elements are the same.
equal

Two or more matrices can be added or subtracted if they are of same dimension.
True

A matrix is said to be_____if the determinant is equal to zero.
Singular

For a matrix to be singular, it's determinant equal to_____.
zero

_____is defined to be the matrix obtained by replacing every number a ij of the given matrix A by its cofactor in the determinant of A.
Cofactor matrix

The transpose CT of C is called the_____of A or Adj A.
Adjoint

_____ forms the basis of various techniques used in solving cumbersome business and technical related situations.
matrix algebra

A_____is a single row or column matrix.
vector

_____ are quantities which are completely specified by numbers which measure their magnitude in terms of some chosen units but have no definite direction in space.
Scalars

Examples of scalars are: speed, energy, mass, density, time, length, work, temperature e.t.c.

A_____is a physical quantity which has magnitude and direction.
vector

_____can be defined as a directed line segments.
Vector

Examples of vectors are: velocity, acceleration, displacement, force, e.t.c.

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The following are the types of vectors

- Free Vectors
- Time and related Vectors
- Point located Vectors
- Position Vector

_____ have magnitude and direction but have no particular position associated with them e.g. Displacement.
Free vectors

_____are located along a straight line e.g. Force.
Time related vectors

_____ is a vector whose position in space is fixed in addition to its magnitude and direction. e.g a position vector.
Point located vector

_____is a vector say PQ which is drawn from a fixed point P which gives the displacement of the point Q from the point P.
Position vector

A vector can be represented by directed_____where the length and direction of the segment corresponds to the magnitude and direction of the vectors.
line segment

The_____of two vectors is defined by the triangular rule
addition

The addition of two vectors is defined by the _____
triangular rule

The_____of vector can be considered as the addition of its negative.
Subtraction

The subtraction of vector can be considered as the addition of its_____.
negative

A complex variable z is of the form a + bi, where a and b are real numbers and i is called the_____.
imaginary number

Two complex numbers z1 and z2 are equal_____
if their real parts are equal

A point P(x, y) means that P is in the (x, y)-plane, where x is called _____
the abscissa and y is the ordinate

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The x and y coordinates of a point are called_____.
the rectangular Cartesian coordinates of the point

A_____is formed when two points are joined together.
straight line

The_____of a straight line can be defied in respect to the angle of inclination of the line with the x -axis i.e.
slope

The equation of a straight line is of the form y – mx + c

A good application of intercept of two lines is the_____.
Market Equilibrium

Two lines are sad to be_____if their gradient is the same
parallel

_____ is the amount of goods requested for by customers at any point in time.
Demand

The_____is the relationship between quantity and price of goods
demand curve

The demand curve can be represented in many forms such as_____
Linear, Quadratic, and Cubic

A_____is the locus of a curve (equidistant from a point).
circle

A_____could be described by its centre (fixed) and its radius.
circle

The_____is the distance between the centre of the circle and the circumference.
radius

The radius is_____
the distance between the centre of the circle and the circumference

The following are properties of equation of a circle
1. The coefficient of the two variables x and y must be the same
2. There must be no term in xy
3. The equation must be second degree or simply in second degree of x and y respectively.

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A_____is a succession of numbers, of which each number is formed according to a definite law which is the same throughout the series.
series

A_____is a succession of terms spanned by a rule or formula.
sequence

Examples

1. 1, 2, 3, 4, 5…
2. 2, 4, 6, 8, 10…
3. a, a^2, a^4, a^8, a^{16} …

A sequence may be_____or_____.
finite or infinite

A_____sequence is one whose first and last element are known
finite

An_____sequence is one whose terms are uncountable.
infinite

_____is a sequence in which each term differs by a common difference.
Arithmetic Sequence (A. P)

A_____is a sequence in which each successive terms of the sequence are in equal ratio.
geometric sequence

A_____is the term wise summation of a sequence.
series

_____describe what happen to a function f(x), as its variable x approaches a particular number, say c.
Limits

_____could be said to be the inverse of integration .this shall be seen as we continue in this section.
Differentiation

The process of finding *f*2(x) is called_____.
differentiation

_____is the inverse process of differentiation.
Integration

Integration is the inverse process of_____.

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differentiation

Integration is the inverse process of differentiation.
True

_____is the point at which the curve is neither a maximum nor a minimum value.
Point of Inflexion

At_____, the turning points are equal
point of inflexion

At point of inflexion, the value of the stationary point at the second derivative is_____.
zero(0)

A function f(x) is said to have a relative maximum value at x = a if_____
f(a) is greater than immediately preceding and succeeding in values of the function

The function f(x) is said to have a relative minimum value at x = a if_____
f(a) is smaller than immediately preceding and succeeding values of the function

_____is the amount by which a resource is underutilized.
Slack

_____is the point at which the curve is neither a maximum nor a minimum value
Point of reflexion

At point of inflexion, the turning points are_____
Equal

If the value of turning point in the second derivative is negative, then it is a_____
Maximum point

If the value of turning point in the second derivative is positive, then it is a_____
Minimum point

Stationary points are also called_____
turning point

The coordinate of the point of interception of the lines, 2x + 3y = 5 and x + 2y = 3, is_____
(1, 1)

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If y = c, where c is a constant, then δyδx yields_____
0

Given the function H(x) =kx+3 for x < 2 3x2 – x + 3 for x ≥ 2 . The values of „k" for which H(x) is continuous at x = 2 is_____
K=5

The limn→∞7-2x is_____
7

The limit of function fx=12x as x→0, is_____
1

The limit of function fx=12x as x→2, is_____
¼

_____describe what happen to a function f(x), as its variable x approaches a particular number, say c
Limit

The common ratio of the G.P 2, 6, 18, 54, 162, is_____
3

A_____is a sequence in which each successive terms of the sequence are in equal ratio.
geometric progression

The 7th term of an A.P is 15 and the fourth term is 9. The first term and the common difference are_____and_____respectively
3, 2

The 7th term of an A.P whose first term is 102 and common difference is -3 is_____
84

The square of common difference of the sequence 3, 5, 7, 9, 11,_____is
4

_____is a sequence in which each term differs by a common difference
Arithmetic progression

An infinite sequence is one whose terms are_____
Uncountable

_____is a succession of terms spanned by a rule or formula.
A sequence

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_____is the amount of goods requested for by customers at any point in time.
Demand

The demand curve is the relationship between quantity and_____of goods
Price

The demand curve is the relationship between quantity and price of goods
quantity

A physical quantity having both magnitude and direction is called _____
vector

The necessary and sufficient conditions for two lines to intercept are that they must be_____and independent
consistent

A good application of intercept of two lines is the_____
market equilibrium

_____will the equation of a line (-1, -4) whose gradient is 1?
y=x-3

The equation of a straight line is of the form _____
y=mx+c

The distance between the pairs of points A(0, 1) and B(6, 9) is_____
10

By a point P(x, y) we mean that P is in th_____plane
(x, y)

zn = [r(cosθ + isinθ)]n is called the_____theorem
De Moivre's

If z = x + iy, ⇒ z = r cosθ + r i sinθ is called the_____of z.
polar form

Let A be a square matrix where the element ai j = 0. For i > j, then A is called_____
An upper triangular matrix

The distance between (0, 1) and (6, 9) is _____
10

The gradient of the line perpendicular to x + 3y = 2 is_____
3

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The determinant of is_____
-1

Let ; Given that |AB| =121, find the value of k
-3

For what value of m would the matrix be singular?
2

Calculate the distance between the points: A(0,1) and B(6,9)
10

The negation of tautology is a _____
contradiction

The magnitude of the vector is _____
13

he magnitude of the vector is _____
5

Two vectors are said to be_____if they are in equal direction
parallel

A_____is a succession of terms spanned by a rule or formula
sequence

A sequence in which each term differs by a common difference is known as _____
Arithmetic Sequence

The 6th term of an A.P whose first term is 102 and common difference is -3 is _____
87

The point at which the curve is neither a maximum nor a minimum value is called point of _____
inflexion

The 11th term of an A.P whose first term is 102 and common difference is -3
72

_____ sequence is a sequence in which each successive terms of the sequence are in equal ratio
geometric

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A_____sequence is one whose first and last element are known
finite

_____ is the study and analysis of a mathematical proposition as to ascertain the Truth Value of the proposition.
Logic

Lagos is a cosmopolitan state. The Truth Value of this is_____
true

There are two types of statements_____
simple and composite

The connective "∧" in logic is _____
conjunction

The connective "⇒ " in logic is a_____
conditional

The connective "~" in logic is a_____
negative

The connective "⇔ " in logic is a_____
bi – implication

The negation of contradiction is a_____
tautology

_____ is said to be formed when the conjunction of a set of simple mathematical statements gives rise to another mathematical statement.
argument

MCQ10: If (p ∧ q) = p and (p ∨ q) = p implies an_____
Idempototent Laws

If (p ∨ q) ∨ r = p ∨ (q∨ r) and (p ∧ q) ∧ r = p ∧ (q∧ r) implies an_____
Associate Laws

If (p ∧ q) = (q∧ p) and (p ∨ q) = (q∨ p) implies an_____
Commutative Laws

_____reads “the goods are standard and the goods are expensive
(p ∧ q)

_____reads “the goods are standard if and only if the goods are expensive”
(p ↔ q)

_____is equivalent to (p ∨ q)

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(p ↔ q)

Which of the following statement is true?
(p ∨ q) ∧ (p∨ r) = p∨ (q ∧ r)

Which of the following statement is true?
(~ (p∨ ~ q)= ~ (p∧~ q)

_____ is a rectangular array of numbers with reference to specific rules governing the array
Matrix

A matrix that has elements only on its diagonal is called_____
diagonal matrix

The_____of a matrix is the inter- changing of its row with the column.
transpose matrix

A matrix in which its transpose is equal to itself is called_____
symmetric matrix

Given that A=123456 and B=123456, Find AB?
51215192631294051

Find the determinant of the A=2-456?
32

Given that A =123321132, Find the determinant of A
3

A matrix is said to be singular if the determinant is equal to_____
0

Given that 13k4 is a singular matrix. Find the value of k?
43

Given that A =201k23214, what is the value of k, if A is said be a singular matrix?
-6

Given that x + 2y = 3, 3x + 4y =1. What is x and y?
-5, 4

Given that x + 2y + 3z =1, 3x + 2y + z = 4, x + 3y + 2z = 0. What is x,y and z?
74, - 34, 14

Let A =123450214, then the cofactor of matrix A is the matrix
20-16-6-5-23-1512-3

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What is the common difference in the sequence 3, 5, 7, 9, 11_____
2

Calculate the determinant of the matrix A =123450214?
-10

Given the following equations for two related markets (A) and (B). Find the equilibrium conditions for each market. What is the equilibrium price for each marketxd (A) = 82 – 3PA + PB , xd (B) = 92 + 2PA - 4PB , xs (A) = -5 + 15PA xs (A) = -6 + 32PB,where xd and xs denote quantity demanded and quantity supplied respectively.
PA = 5, PB = 3 are the equilibrium prices for each market

A necessary and sufficient condition for a matrix (square) A to be invertible is that_____
A ≠ 0

What is the sum of AB→, -CB→, CD→, − ED→.
AE→

Two lines are said to be parallel if
All the options

Find the coordinate of the point of interception of the lines: 2x + y = 5 ; x + y = 3MCQ45: Let the gradient of a line be 3, find the equation of the line at point (1,2)
y = 2x

Find the equation of the line which is parallel to 3x + 2y = 5 and passes through the point (2, -4)
Answer: 3x + 2y = -2

Find the equation of the line which is parallel to 3x - 2y = 5 and passes through the point (-2, -4)
-3x + 2y = -2

Find the equation of line that passes through the points: A(2, 3) and B(4, 6)
2y =3x

_____ is the study and analysis of a mathematical proposition as to ascertain the Truth Value of the proposition.
Logic

Lagos is a cosmopolitan state. The Truth Value of this is_____
true

The connective "∧" in logic is a_____

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conjunction

The connective "⇒ " in logic is a _____
conditional

The connective "~" in logic is a_____
negative

The connective "⇔ " in logic is a_____
bi – implication

The negation of contradiction is a_____
tautology

_____ is said to be formed when the conjunction of a set of simple mathematical statements gives rise to another mathematical statement.
Argument

Find the equation of the line which is parallel to 3x + 2y = 5 and passes through the point (2, -4)
3x + 2y = -2

Find the equation of the line which is parallel to 3x - 2y = 5 and passes through the point (-2, -4)
-3x + 2y = -2

Find the equation of line that passes through the points: A(2, 3) and B(4, 6)
2y =3x

The magnitude of a vector R = 12i + 5j is_____
13

Find the unit vector in the direction of the vector 3i - 2j + 6k.
(3i - 2j + 6k)/7

If the distance between two points 3+2i and k+2i in the complex plane is 5, find k.
-2

If p is true, q is true; then p and q must be_____
True

The meaning of the disjunction of p and q denoted by p∨q is_____
p or q

The meaning of the conjunction of p and q denoted by p∧q is_____
p and q

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What does the negation of p denoted by ~p mean?
Not

The negation of contradiction is a_____
Tautology

The negation of tautology is a _____
Contradiction

A matrix in which all its diagonal elements are one (1), where all other elements are zero is called_____
identify matrix

Find the determinant of the matrix abcd
ad-cb

A matrix in which its transpose is equal to itself is_____
symmetric matrix

A matrix is said to be_____if the determinant is equal to zero.
Singular

The negation of tautology is a_____
Contradiction

If the conclusion derives its support from its premises, the argument is said to be_____
Valid

Any matrix, which has the same number of rows and columns is called_____
square matrix

Let A =52n38 and B =c3k-1e be equal. Find elements e and k in matrix B
e= 8, k=4

A +B are equal to identity matrix, find x+y, where A =x-y2s-x and B=-5x-202y.
7

Any matrix of dimension (m x n) with all its elements equal to zero is called_____
Void Matrix

Given that X=246 and Y= 35-7, Find XY
16

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A matrix in which all its diagonal elements are one (1), where all other elements are zero is called_____
Identify Matrix

Given that X=246 and Y= 35-7, Find XY
-16

The inter-changing of a matrix row with its column is called_____
Transpose of a Matrix
If a matrix y482. is singular, what is y?.
16

Given that AB→+BC→=AC→, then AC→ is called_____vector.
Resultant

Two vectors ai + bj and ci + dj are equal if_____
a =c, b=d

The magnitude of a vector 3i - 4j is _____
5

Determine the unit vector in the direction of the vector 5i - 12j.
(5i - 12j)/13

Simplify (1-2i2 .
-3-4i

Determine (1-i)/(1+i)
2

Find 7-3z if z =2+i.
1-3i

Determine 1-z2 , given that z =4 - i.
-14 +18i

Simply 3+4i/1-2i.
-1+2i

Express the complex number 21-2i-12-i in the form a+bi.
-3i/5

The square of the distance between two points Z1=1+3i and Z2=4+2i in the complex plane is given by_____
10

Find the equation of the line which passes through the pair of points (-1,-1) and (2, 2).

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y -x =0

State the gradient and the y- intercept respectively of the line x − 4y − 8 = 0.
1/4, - 2

Find the equation of the line which is parallel to the line 2y + 5x = 1 and passes through the point of (4, 5).
2y -5x =30

Let y=loge(4x+5)). dydx is _____
4/(4x-5)

Differentiate f(x) = (x – 1)(3x – 2) with respect to x.

6x-5

Determine the gradient of the line joining the points (7, 3) and (4, -6)
3

Determine the distance between the midpoint D of the line joining AB (A(3, 4) and B(5, 8)) and C(1, 2)
5

Determine the gradient of a straight line passing through the point (2, 5) and (-6, 6).
1/8

Find the gradient and the angle of inclination respectively of the straight line passing through the points (-2, 4) and (3, 6).
2/5, 21.800

Find the value of x for which the curve has the maximum value.
-5

The value of i15 is _____
-i

_____is the science of numbers and shape
Mathematics

_____is the science of reasoning or explaining events
Logic

_____ is the study and analysis of a mathematical proposition as to ascertain the Truth Value of the proposition
Logic

Given that 2 3 4 the Truth Value of this statement is_____

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false

Lagos is a cosmopolitan state The Truth Value of this is_____
true

_____is used to analyze the Truth Value of any mathematical statement
Truth Value Table

A statement or proposition in the context of logic is_____
a declarative sentences or an expression of words which are either true or false but cannot assume **both**

The connective Rightarrow in logic is a_____
conditional

The connective Lightrightarrow in logic is a_____
bi implication

_____ is said to be formed when the conjunction of a set of simple mathematical statements gives rise to another mathematical statement
An argument

What is the common difference in the sequence 3 5 7 9 11?
2

Evaluate fracz1 3 2i z2 4 3i
359

What is the distance between the points z1 and z2 given that z1 3 2i and z2 4 3i
2

Find the unit vectors in the direction of the vector a4i3j
A: 5

Given that r1 3i 5 j r2 4i 19 j Find the modulus of 5r1 r2
1992

What is the magnitude of the vectors 3i 4 j
5

If P T P and P F F implies _____
Identity Laws

If p q q p and p q q p implies an_____
Commutative Laws

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_____is the use of connectives to combine two or more simple statements to form just one
composite statement

The connective wedge in logic is a_____
conjunction

Given that x 2y 3 3x 4y 1 What is x and y
5 4

A matrix in which all its diagonal elements are one 1 where all other elements are zero is called_____
identity matrix

The of a matrix is the inter changing of its row with the column
transpose matrix

Let Abeginpmatrix123450214endpmatrix then the cofactor of matrix A is the matrix
beginpmatrix20 16 16 5 23 1512 3endpmatrix

Calculate the determinant of the matrix Abeginpmatrix1234 50214endpmatrix
10

Given that Abeginpmatrix123456endpmatrix and Bbeginpmatrix123 456endpmatrix What is AB
ABbeginpmatrix22284964endpmatrix

What is the determinant of the Abeginpmatrix 12 3 4 endpmatrix
2

Reads the goods are standard if and only if the goods are expensive
pleftrightarrow q

A matrix that has elements only on its diagonal is called_____
diagonal matrix

pwedge q qvee p and pvee q qvee p implies an_____
Commutative Laws

pvee qvee rpvee qvee r and pwedge qwedge r pwedge qwedge r implies an_____
Associative laws

Given thatAeginpmatrix1 2 3 4 5 6 endpmatrixand Beginpmatrix 1 2 3 4 5 6 endpmatrix Find AB
eginpmatrix 5 12 15 19 26 31 29 40 51 endpmatrix

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A matrix in which its transpose is equal to itself is called_____
symmetric matrix

_____ is a rectangular array of numbers with reference to specific rules governing the array
Matrix

Given thatAbeginpmatrix1 2 3 4 5 6 endpmatrixrnand Bbeginpmatrix 1 2 3 4 5 6 endpmatrixrn Find AB
beginpmatrix 5 12 15 19 26 31 29 40 51 endpmatrix

Given that x 2y 3z 1 3x 2y z 4 x 3y 2z 0 What is xy and z
74 3414

What is the common difference in the sequence 3 5 7 9 11cdots
2

Given that Aeginpmatrix 2 0 1 k 2 3 2 1 4 endpmatrix what is the value of k if A is said to be a singular matrix
6

Given that Aeginpmatrix 1 2 3 3 2 1 1 3 2 endpmatrix Find the determinant of A
3

A matrix is said to be singular if the determinant is equal to_____
Zero
Given that eginpmatrix 1 3 k 4 endpmatrix is singular matrix Find the value of k
43

A necessary and sufficient condition for a matrix square A to be invertible is that_____
is not equal zero

Calculate the determinant of the matrix Aeginpmatrix 1 2 3 4 5 0 2 1 4 endpmatrix
10

Given that beginpmatrix 1 3 k 4 endpmatrix is singular matrix Find the value of k
43

Given that Abeginpmatrix 1 2 3 3 2 1 1 3 2 endpmatrix Find the determinant of A
3

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Given that Abeginpmatrix 2 0 1 k 2 3 2 1 4 endpmatrix what is the value of k if A is said to be a singular matrix
6

Let Abeginpmatrix 1 2 3 4 5 0 2 1 4 endpmatrix then the cofactor of matrix A is the matrix
Abeginpmatrix 20 16 6 5 2 3 15 12 3 endpmatrix

Calculate the determinant of the matrix Abeginpmatrix 1 2 3 4 5 0 2 1 4 endpmatrix
10

Calculate the distance between the points: A(0,1) and B(6,9)
10

Find the magnitude of the vector: \[5i-12j\]
13

The addition of two vectors is defined by the_____
triangular rule

The absolute value of a vector is_____
that positive number which is a measure of the length of the directed segment

A vector, PQ drawn from a fixed point P which gives the displacement of the point Q from the point P is called_____
Position Vector

Quantity having magnitude only but no direction is called_____
scalar

A physical quantity having magnitude and direction is known as_____
Vector

The transpose of the cofactor matrix of a square matrix B is called the_____ of B
adjoint

Determinant is a number associated with_____matrices
square

A square matrix is called_____if all the elements above the main diagonal vanish
lower triangular

Two matrices A and B are said to be conformable for multiplication if_____
the number of columns of A is same as the number of rows in B

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Two matrices are said to be equal_____
equal if their corresponding elements are the same

Any matrix of dimension (m x n) with all its elements equal to zero is called _____matrix
Void

A matrix same as its transpose is_____
symmetric

A diagonal matrix having all its diagonal element as one (1) is_____
identity

A matrix having the same number of rows and columns is referred to as_____matrix
square

A rectangular array of numbers with reference to specific rules governing the array is known as_____
Matrix

One of the following has truth value 'False"
Ijebu-Ode is in Ogun State if and only if 4+3 = 6

One of the following is not a connective in Logic
Disjointion

The True value of Bi-conditional statement would be true
if the two statements have the same Truth Value

Let p and q be two simple statements, then the following are conditional statements except
p if and only if q

All but one of the statements have truth value true
Ibadan is the capital of Oyo State or 4 + 3 = 6

_____ statement is the use of connectives to combine two or more simple statements to form just one
Composite

_____ occurs when the conjunction of a set of simple mathematical statements gives rise to another mathematical statement
Argument

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Expressions, phrases or symbols that are made used of, to join two or more simple statements together in order to form a compound statement are called_____
Connectives

A declarative sentences or an expression of words which are either true or false, but cannot be both is called_____
Proposition

One of these does not explain the objectives of logical reasoning
It could be used to decode equivalent only

The Truth value of the statement 'Ijebu-Ode is in Lagos State' is_____
False

The study and analysis of a mathematical proposition as to ascertain the Truth Value of the proposition is known as_____
Logic

_____can be used to depict or analyze the Truth Value of any mathematical statement
Truth Value Table

Given that p ? q this means the symbols speak about
Conjunction p ? q

If P is a given negation, its negation is____
~ p

Conditional statement is of the form “if P then Q.” then the symbolical representation is
p à q

Bi-conditional statement can be symbolically represented as ____
p ó q

Given that (p v q)v r = p v (q v r)
Associative

If p v (q ? r) = (p v q) ? (p v r) then it is a(an) _____
Distributive

If A= 200050001 then A is matrix
Diagonal

Given A= 123242 and B= 104213find A+B
227455

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If A= 213312 and B= 212122 then 2A+B=
638746

Given that A= 123457 and B= 124365 find AB
27236658

Find the determinant of A= 4365
2

Find the determinant of 12-47
15

Find det X, given that X= 123321411
-12

Given that 32X1 is a singular matrix, find X.
11/2

Given that M= 221+62-X213 find X, for M to be singular
51/2

Solve for x and y in x+3y=4 and 3x+4y=6
2/5,6/5

Given that co-factor matrix M= 16-12-4-5-33-12-3find the Adj M
16-5-5-12-312-43-3

Find the magnitude of 3i – 4j
5

Let x, y, z be the heights assigned to A, B, C such that x+2y+3z= 11, 2x+4y+5z= 21 and x+2y+3z= 11
x=2, y=3, z=1

Find the unit vector in the direction of the vector 4i - 3j
1/5(4i – 3j)

If Z1= 3+i and Z2= 4+3i, find Z1+Z2
7+4i

Given that Z1= 3–2i and Z2= 5+3i, find Z1 – Z2
-2–4i

If Z1= 2–2i and Z2= 5–3i, find Z1/ z2
(2-2i)(5+3i)34

Find the distance between A (5, -3) and B (-1, 3)

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62

Find the angle of inclination if A (2, -3) and B (4, 5)
45o

Find the distance between A (0, 1) and B (9, 6)
106

Find the distance between A (6, 3) and (6, 9)
6

Find the gradient of the straight line A (-2, 0) and B (6, -4)
1/2

Find the distance between A (6, 9) and B (11, 15)
61

Find the equation of a line with A (2, 3) and B (6, 8)
5x-4y= -2

Find the equation of a line, which passes through the points A (0, 3) and (6, 0)
y+2x= 6

Find the coordinate of the point of intercept of the equations 2x+3y= 5 and x+2y= 3.
1, 1

Find the gradients of these equations x+y= 5 and x+2y= 6 respectively
-1 and -1/2

Find the coordinate of the meeting points of equations x+y= 3 and x+2y= 5
1, 2

Find the equation of a line that is perpendicular to 2x+5y= 10
5x-2y= -4

Given that two (2) lines with gradients M1 and M2 are parallel, then_____
M1 = M2

Find the equation of the line which is parallel to 3x+2y= 5 and passes through the point (3, -6).
3x+2y= -3

Find the equation of the line which is perpendicular to 2x+3y= 6 and passes through the point (2, -4)
2x+3y= -8

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Given x2+y2–24x–10+60= 0, find the coordinate of the centre.
12, 5

Find the coordinate of the centre and radius of circle of the equation x2+y2–24x–6y+86= 0
(12, 3), r= 7

Given that nth term of a Sequence 4, 6, 8…….is an = a + (n-1) d, find the 7th term
16

Given the two (2) sequences 1, 3, 5 …..and 2, 4, 6……..the 8th terms of the two (2) sequences are ……..
15 and 16

Find the 16th term of an A.P whose first term is 102 and common difference -3.
57

The 4th and 9th terms of an A.P are 10 and 20 respectively; find the first term and the common difference.
4, 2

Find the common ratio of the following 6, 18, 54_____
3

Find the common ratio of 1/32, 1/16, 1/8_____
2

Find the limit of 5xx+1as X à 8
5

The derivative of 5x3+3x+2/x
15x2+3-2/x2

If y=sin-1x, find dy/dx
1/1-x2

A matrix, which has the same number of rows and columns is called _____
square matrix

_____is a matrix in which all its diagonal elements are one
identify matrix

The disjunction of X and Y is denoted by _____
X V Y

_____is the conjunction of X and Y

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(X ^ Y)

The statement of the form „m" If and only If „n" or „m" If „n" is denoted by ____
m <-> n

Let „a" be she is tall and „b" be she is nice. The state in symbolic is written as

(a ^ b)

Let „a" be she is fair or „b" be she is beautiful. The statement in symbolic form is
(a ? b)

If „p" is she is tall and „q" is she is beautiful. The statement that she is tall or short and beautiful can be symbolically represented as _____
(p ? (~ p ^ q))

If p and q stand for he is tall and handsome respectively, then (~ p ^ - q) is ____?
He is neither tall nor handsome

The equilibrium prices and quantities for two commodity market models Xdj = -2 – p + q and Xsi = -2 – q is ____
(2, 4)

The equation of the line passing through the points A (2,3) and B (4, 6) is _____?
2y = 3x

_____is defined to be the matrix obtained by replacing every number aij of the given matrix A by its cofactor in the determinant of A.
cofactor

Given that A = 1425 , the determinant of A is _____
-3

The determinant of A2 – 2A is_____, Given that A = 1221
15

If A = 200010203 it is called_____?
diagonal matrix

The determent of 1-11-223-121 is
-3

The conditional statement of the form if „a" then „b" is _____
(a->b)

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_____are the vectors with the same magnitude and directions.
equal vectors

Equal directions and magnitude means the vectors are _____
Parallel

If three or more points lie on a straight line, they are said to be _____
Collinear

The modulus |.a| is the same thing as _____
Magnitude

A complex variable Z is of the form a + bi where a and b are called _____
real number

In a complex variable Z of the form a + bi, i is called _____
imaginary number

Two or more complex numbers Z1, Z2 and Z3…… are said to be equal if their_____are equal
real parts

Given that a complex number Z= a+ bi, then its conjugate is written as _____
Z = a – bi

If Zn = rn (cos ? + I sin ?) = r (cos ? + I sin ?)n, it is called _____
De Moivre's Theorem

The slope is the same thing as_____of the line with x-axis
tangent of an angle inclination

The gradient of a line is the same as the____of that line,, usually denoted by „m" .
Slope

The gradient or slope of any line can be determined by the_____in y and/over that of x.
rate of change

The equation of a straight line y – mx – c = 0 has____and____as slope and the intercept on the y-axis.
m and c

The equation of a line that passes through the origin is _____
y = mx

The equation of a line given one point and the slope is generally written as _____

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y-y1 = m (x-x1)

_____is the locus of curve equidistant from a point.
Circle

Differentiation is the inverse process of _____
Integration

If the value of turning point in_____is negative then it is a maximum point.
second derivative

If the value of the turning point in the second derivation is positive, then it is a _____
minimum point

_____is the point at which curve is neither a maximum nor minimum.
point of inflexion

At point of inflexion, the turning points are equal and can be referred to as _____
double stationary points

At the point of inflexion, the value of the stationary point at the second derivation is _____
Zero

If a die is rolled, the probability of getting odd and prime number is_____
14

_____is the amount by which a resource is underutilized in optimization model.
Slack

Comparing straight line equations with business that is demand function, we have y = mx + c and q = mp + c, where y=q stands for _____
function of goods demanded

Comparing straight line equations with business that is demand function, we have y = mx + c and q = mp + c, where mx = mp then m stands for
gradient of x and p respectively

Comparing straight line equations with business that is demand function, we have y = mx + c and q = mp + c, where mx = mp then x and p stand for _____
variable price of the goods demanded

The equation of a line with two points and the slope is _____
m = y2-y1/x2-x1 = y-y1/x-x1

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Give that AB-=-BA- are vectors of the same magnitude but in_____direction.
Opposite

If AB-=1, then AB- and it is called a_____ vector
Unit

Given AB-=-BA- are vectors of the_____magnitude but in opposite direction.
same

a-is equal to –a If "a" is less than _____
Zero

a- is equal to "a" If „a" is greater than ____
Zero

The_____of a matrix is the inter- changing of its row with the column
transpose matrix

A matrix that has elements only on its diagonal is called_____
diagonal matrix

_____is a rectangular array of numbers with reference to specific rules governing the array
Matrix

A matrix is a_____array of numbers with reference to specific rules governing the array
rectangular

A salesman has below record for products sold during peak season of October to December. The products are in three variants A, B & C. How many units of product C only is he expected to sell to earn 900 commission?
60

The 7th term of an A.P is 15 and the fourth term is 9. Find the sequence of tenth term
21

The 7th term of an A.P is 15 and the fourth term is 9. Find the sequence of fifth term
11

The 7th term of an A.P is 15 and the fourth term is 9. Find the common difference of the sequence
2

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The 7th term of an A.P is 15 and the fourth term is 9. Find the sequence of first term
3

Find the 7th term of an A.P whose first term is 102 and common difference is -3
84

If the two numbers 20 and x + 2 are in the ratio 2:3, find x
2

The buying price of a basket of oranges is N1000 and the selling price is N5 per orange. What is the profit per basket if 250 oranges are found in the basket?
N250

What is the break even point (quantity) if the buying price of a basket remains N1000 and the selling price is N5
200 Oranges

The buying price of a basket of oranges is N1000 and the selling price is N5 per orange. What is the profit per basket if 300 oranges are found in the basket?
N500

There are_____types of Vectors
four

_____is a matrix in which all its diagonal elements are one
Identity

Rename 3/8 as a decimal. The answer is_____
37.5

Round 2.748 to the nearest hundred. The answer is_____
2.748

A_____sequence is one whose first and last element are known
Finite

If the two numbers 20 and x + 2 are in the ratio 2:3, find x
2

_____allows the principal amount to grow at a faster rate than simple interest
Compound Interest

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_____ have magnitude and direction but have no particular position associated with them
Free Vectors

_____is defined to be the matrix obtained by replacing every number ij a of the given matrix A by its cofactor in the determinant of A
Cofactor Matrix

Use Cramer‟s rule to solve the following: 2x+3y=1, 5x+6y=0
4

Use Cramer‟s rule to solve the following: x+2y=3, 3x+4y=1
-5

Any matrix, which has the same number of rows and columns, is called a _____matrix
Square

_____could be said to be the inverse of integration
Differential

For Multiplication of two matrices to be possible, they must be_____
Comformable

To find the determinant of a matrix, the matrix must be a_____matrix
Square

All polynomial functions are_____
Continous

A_____could be described by its centre (fixed) and its radius.
Circle

A vector can be represented by directed_____, where the length and direction of the segment corresponds to the magnitude and direction of the vectors.
line segment

_____is a physical quantity which as magnitude and direction.
Vectors

This are defined as quantities, which are completely specified by numbers, which measure their magnitude in terms of some chosen units, but have no definite direction in space, is referred as_____
Scalars

_____ is paid by a borrower of assets to the owner as a form of compensation for the use of the assets
Interest

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Simple Interest is only calculated on the_____
Principal

The_____are the amount of time available for material purchases and construction
Constraint

_____is the point at which the curve is neother a maximum nor a minimum value
Point of Inflexion

Differentiation could be said to be the_____of intergration
Inverse

A continous function is one which has no_____in its curveq
Curve

With_____we can define intervals on the number scale.
Inequalities

The_____curve is the relationship between quantity and price of goods
Demand

_____have equal rate of change
Parallel lines

Parallel lines have equal rate of _____
change

A good application of intercept of two lines is the_____
Market Equilibrium

_____describe what happens to a function f(x) as its variable x approaches a particular number, say c
Limits

An_____sequence is one whose terms are uncountable.
Infinite

A_____is a succession of terms spanned by a rule or formula
Sequence

A sequence is a succession of terms spanned by a_____or formula
rule

A sequence is a succession of terms spanned by a rule or _____
formula

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The coefficient of the two variables x and y of a circle must be_____
The same

A circle could be described by its_____and its radius.
Centre

The_____is the distance between the centre of the circle and the circumference
diameter

With_____we can define intervals on the number scale.
Equalities

The demand curve can be represented in many forms such as_____
Quadratic

_____is the amount of goods requested for by customers at any point in time.
Supply

The_____of a straight line can be defied in respect to the angle of inclination of the line with the x –axis
Slope

_____ are quantities, which are completely specified by numbers, which measure their magnitude in terms of some chosen units, but have no definite direction in space.
Scalars

_____is a single row or column matrix
Vector

_____is a matrix in which its transpose is equal to itself.
Symmetric

Any matrix of dimension (m x n) with all its elements equal to zero is called a_____matrix
Null

Compute the simple interest on N5,700 for 2 years at 2.5% p.a.
N285.00

The mean of 4 numbers is 9. If one number is excluded the mean becomes 8. Find the excluded number
4

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A declarative sentences or an expression of words which are either true or false, but cannot be both is called_____
Proposition

Expressions, phrases or symbols that are made used of, to join two or more simple statements together in order to form a compound statement are called_____
Connectives

_____ occurs when the conjunction of a set of simple mathematical statements gives rise to another mathematical statement
Argument

_____ statement is the use of connectives to combine two or more simple statements to form just one
Composite

A matrix same as its transpose is_____
symmetric

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