Question FBQ1 : A ___ is a phenomenon that relates one variable or quantity to other variables or quantities
Answer: Function

Question FBQ2 : The___ of the function is the set of all values taken on by the dependent variable
Answer: range

Question FBQ3 : In the equation, y=4x2+3, x is the ___ variable
Answer: Independent

Question FBQ4 : To decide whether an equation defines a function, it is helpful to isolate the ___on the left
Answer: Dependent variable

Question FBQ5 : The equation y=�1-x2 indicates that y=+1 or y= �������_____
Answer: -1

Question FBQ6 : The solution of x2+y2=4 when x=1 is ___
Answer: �3

Question FBQ8 : The value of fx=2x3-4x+1 when x=0 is ___
Answer: 1

Question FBQ9 : If p is a polynomial function and c is any real number, then limx?c?p(x)=___
Answer: p(c)

Question FBQ10 : In sketching the graph of a function, we allow the horizontal axis represent the ___ variable
Answer: Independent

Question FBQ11 : A function is ___ if every horizontal line intersects the graph of the function at most once
Answer: One to one

Question FBQ12 : If two values of y corresponds to an x value, then it is said that ___
Answer: y is not a function of x

Question FBQ13 : The function given by f.gx=f(g(x)) is the ___ of f with g
Answer: Composite

Question FBQ14 : If fx=2x+1 and gx=x2+2 the value of g(f(x)) is ___
Answer: 4x2 + 4x + 3

Question FBQ15 : Given that fx=x and gx= x2-1, f(g(1)) = ___
Answer: 0

Question FBQ16 : In an inverse function, the domain of f must be equal to the range of f-1, and the range of f must be equal to the domain of ___
Answer: f-1

Question FBQ17 : The inverse function of fx=x3 is ___
Answer: x3

Question FBQ18 : f has no inverse if does not pass the _____ test
Answer: Horizontal

Question FBQ19 : For a continuous function limx?x0?f(x0) =
Answer: f(x0)

Question FBQ20 : limx?-2?5x+2=___
Answer: ?

Question FBQ21 : Let c be a real number and fx=g(x) for all x?c. If the limit of gx exists as x?c, then the limit of fx also exists and limx?2?fx=limx?2?g(x). This theorem is known as the ___
Answer: Replacement theorem

Question FBQ22 : Evaluating limx?1?x3-1x-1 gives ___
Answer: 2

Question FBQ23 : A polynomial function is continuous at every real ___
Answer: Number

Question FBQ24 : There are ___ categories of discontinuities
Answer: 2

Question FBQ25 : A function is said to be continuous if and only if it is continuous at every point of its ___
Answer: Domain

Question FBQ26 : The function fx=3-x is continuous in the interval ___
Answer: (-?,3]

Question FBQ27 : Continuity of a function is expressed some times by saying if the x value are closed together, then the ___values of the function will also be close
Answer: Y

Question FBQ28 : Derivative is often described as the �___ rate of change�
Answer: Instantaneous

Question FBQ29 : The process of finding a derivative is called ___
Answer: Differentiation

Question FBQ30 : ___ is defined as the ratio of the vertical distance the line rises or falls between two points P and Q to the horizontal distance between P and Q
Answer: Gradient

Question FBQ31 : ___ theorem can be used to find the derivative of y=xn
Answer: Binomial

Question FBQ32 : The derivative of cot?x is ___
Answer: -cosec2x

Question FBQ33 : The derivative of cosec x is ___
Answer: �cosec x.cot?x

Question FBQ34 : If we differentiate ax, we get ___
Answer: ax.lna

Question FBQ35 : If y=uv, then the product rule is given as dydx ___
Answer: udvdx+vdudx

Question FBQ36 : The quotient rule for differentiation is given as dydx ___
Answer: dydx=vdudx-udvdxv2

Question FBQ37 : The chain rule of differentiation is given as___ dydx
Answer: dydu.dudx

Question FBQ38 : The derivative of y=tan?(3x+2) is ___
Answer: 3sec2(3x+2)

Question FBQ39 : The derivative of y=sin?(4x+3) is ___
Answer: 4cos?(4x+3)

Question FBQ40 : xy+cosy=5 is an example of an___ function
Answer: Implicit

Question FBQ41 : If y= x5ex, dydx gives ___
Answer: x4exx+5

Question FBQ42 : The c in integration is called an ___ constant
Answer: Arbitrary

Question FBQ43 : The general formula for integration ?xndx is given as ___
Answer: xn+1n+1+c

Question FBQ44 : ?-11-x2dx
Answer: cos-1x+c

Question FBQ45 : ?1x2-1dx=
Answer: cosh-1x+c

Question FBQ46 : ?1x2+1dx=
Answer: Sinh-1x + c

Question FBQ47 : ?f'(x)f(x)dx=
Answer: ln{f(x)} + c

Question FBQ48 : The volume of a cone Vcone=___
Answer: 13?r2h

Question FBQ49 : The volume of a sphere is given as Vx= ___
Answer: 4?r33

Question FBQ50 : ?axdx=
Answer: axlnx+c

Question FBQ7 : The equation of the tangent at x = 2 on the curve x2+ y2- 2x+y=6 is ___
Answer: 5y + 2x � 14 = 0

Question MCQ1 : Which of the equation below define y as a function of x?
Answer: x2+y=1

Question MCQ2 : Find f(-1) for the equation y=2x2-4x+1
Answer: 7

Question MCQ3 : Find the value of fx=1-5x+x2 for x=4
Answer: -3

Question MCQ4 : Let fx=x2-4x+7, find fx+?x-f(x)?x
Answer: 2x+?x-4

Question MCQ5 : Division by Zero is...
Answer: Undefined

Question MCQ6 : A function is said to be one to one if...
Answer: To each value of the dependent variable in the range, there corresponds exactly one value of the independent variable

Question MCQ7 : If fx=2x-4 and gx=x2+3, find f(g(x))
Answer: 2(x2-1)

Question MCQ8 : If f-1x=x-8, then f(x)=?
Answer: x+8

Question MCQ9 : Let f x=1x , then f-1x is given as...
Answer: x

Question MCQ20 : Which of the following conditions does NOT determine the continuity of f at point c?
Answer: limx?c?fc=f(x)

Question MCQ21 : fx=(x2-1)(x-1) is continuous on the interval ...
Answer: -?,1and (1,?)

Question MCQ22 : Discontinuities fall into two categories namely ...
Answer: Removable and non-removable

Question MCQ23 : The representation limx?b-?fx=f(b) shows that ...
Answer: f is continuous from the left at b

Question MCQ24 : Which of the following statements is true about the continuity of fx=3-x
Answer: f is continuous on the interval (-?,3]

Question MCQ25 : Which of the following about the continuity of gx=5-x, -1?x?2x2-1, 2<x?3 is NOT correct?
Answer: limx?2?gx is continuous on the interval [-?,?]

Question MCQ26 : Differentiate y=x3+5x2-4x+2 with respect to x
Answer: 3x2+10x-4

Question MCQ27 : Find the value of dydx at x=2, if y=x4+6x3-4x2+7x-2
Answer: 95

Question MCQ28 : The derivative of sinx+cosx=�
Answer: cosx-sinx

Question MCQ29 : What is the derivative of   ln?(x)?
Answer: 1/x

Question MCQ30 : If the derivative of sec?x=sec?xtan?x, find the derivative of cosec x.
Answer: �cosec x .cot x

Question MCQ31 : If we differentiate ex, we get ...
Answer: ex

Question MCQ32 : Find the derivative of y=x3sinx
Answer: x(x2cosx+3sinx)

Question MCQ33 : Differentiate y=x2(2x-5)4 with respect to x yields ...
Answer: 2x2x-53(6x-5)

Question MCQ34 : Differentiate with respect to x if y=sinxx2
Answer: xcosx-2sinxx3

Question MCQ35 : The gradient of a curve is found ...
Answer: At a point on the curve

Question MCQ36 : In differentiation, the chain rule technique is used when differentiating ...
Answer: A function of a function

Question MCQ37 : Find ?(s3+4s)ds
Answer: s44+2s2+c

Question MCQ38 : Evaluate $\int(3x-2)^6 dx$
Answer: $\frac{(3x-2)^7}{21}+c$

Question MCQ39 : Evaluate $\int \cos(6x+4)dx$
Answer: $\frac{\sin(6x+4)}{6}+c$

Question MCQ40 : Evaluate $\int(\sec^2 8x)dx$
Answer:
$\frac{\tan 8x}{8}+c$

Question MCQ41 : Find $\int \frac{2x-5}{x^2-5x+6}dx$
Answer: $\ln|x^2-5x+6|+c$

Question MCQ42 : Find $\int \cot x\, dx$
Answer:

$\ln|\sin x|+c$

Question MCQ43 : Evaluate $\int xe^{2x}dx$ using integration by parts
Answer: $e^{2x}\frac{2x-1}{2}+c$

Question MCQ44 : Definite integrals can also be used to calculate ...
Answer: Volume of solids

Question MCQ45 : The infinitesimal volume of a cylinder representing an element of integration revolving around the x axis is given by ...
Answer: $Vx=\int_{-?}^{a} by^2 dx$

Question MCQ46 : The infinitesimal volume of a cylinder representing an element of integration revolving around the y axis is given by ...
Answer: $Vy=\int_?^? abx^2 dx$

Question MCQ47 : Find the volume of a sphere generated by a semicircle $y=\sqrt{r^2-x^2}$ revolving around the x-axis.
Answer: $4\,?r^2/3$

Question MCQ48 : Find the volume of a right circular cone generated by the line (segment) passing through the origin and point (h,r), where h denotes the height of the cone and r is the radius of its base revolving around the x-axis.
Answer: $Vcone=\frac{1}{3}?r^2 h$

Question MCQ49 : Find the value of dy/dx for $y=(2x+5)^3$ at x=4
Answer: 1014

Question MCQ50 : What is the value of $\int \cos x\, dx$ at x=30?
Answer: 12

Question MCQ15 : If $\lim_{x\to c}fx=L$ and $\lim_{x\to c}gx=K$, then $\lim_{x\to c}bfx=bL$ is called...

Answer: Scalar multiple

Question MCQ16 : Find $\lim_{x\to 2}(x^2+2x-3)$
Answer: 5

Question MCQ17 : Evaluate $\lim_{x\to 1}f(x)$ if $fx= \frac{x^3-1}{x-1}$
Answer: 3

Question MCQ18 : Find $\lim_{x\to 0}f(x)$ if $fx= \frac{x+1-1}{x}$
Answer: 12

Question MCQ19 : Let $\lim_{x\to c}fx=9$ and $\lim_{x\to c}gx=12$, then $f(x)g(x) = ...$
Answer: 18

Question MCQ10 : Find the inverse function of fx=2x-3
Answer: x2+32

Question MCQ11 : Find the domain and range of fx=4-x2, leaving your result in interval notation.
Answer: 4,?, [0,?]

Question MCQ13 : Find the limit: limx?1?f(x) if fx= x2-1x-1
Answer: 2

Question MCQ14 : Evaluate limx?1?(x2+1)
Answer: 1

Question MCQ12 :
Answer: