Week 1.

The order of matrix B =  (1257)(1257) is

 1 × 4

 4 × 1

 2 × 1

 1 × 1

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*1 × 4*

***1 point***

If A = (1324)(1234) and A + B = 0, then B = ?



 (1324)(1234)



(1−3−2−4)(1−2−3−4)



(−1−3−2−4)(−1−2−3−4)



(−132−4)(−123−4)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

(−1−3−2−4)(−1−2−3−4)

***1 point***

The product (123)⎛⎝⎜321⎞⎠⎟(123)(321) is equal to

 5

 2

 10

 6

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*10*

***1 point***

The type of matrix ⎛⎝⎜4000−1000−7⎞⎠⎟(4000−1000−7) is

 a scalar matrix.

 a diagonal matrix.

 a unit matrix.

 neither diagonal nor scalar matrix.

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*a diagonal matrix.*

***1 point***

If (2x1)⎛⎝⎜0x−1⎞⎠⎟(2x1)(0x−1) = ( 15 ), then the value of x is

 5

 2



±3±3



±± 4

Yes, the answer is correct.  
Score: 1

Accepted Answers:

±±*4*

***1 point***

If A and B matrices are of same order and A + B = B + A, this law is known as

 distributive law.

 commutative law.

 associative law.

 Cramer's law.

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*commutative law.*

***1 point***

If determinant of a matrix is equal to zero, then it is said to be

 square matrix

 singular matrix

 non-singular matrix

 identity matrix

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*singular matrix*

***1 point***

To multiply a matrix by scalar k, multiply

 any row by k

 every element by k

 any column by k

 the diagonal elements by k

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*every element by k*

***1 point***

If A = (1324)(1234), then AnAn is



(1+2nn−4n1−2n)(1+2n−4nn1−2n)



(3n1(−4)n(−1)n)(3n(−4)n1(−1)n)



(1+3n1+n1−4n1−n)(1+3n1−4n1+n1−n)



(1+2n1+n−4n1−2n)(1+2n−4n1+n1−2n)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

(1+2nn−4n1−2n)(1+2n−4nn1−2n)

***1 point***

The inverse of the matrix ⎛⎝⎜0.500040001⎞⎠⎟(0.500040001) is



⎛⎝⎜0.5000−40001⎞⎠⎟(0.5000−40001)



⎛⎝⎜0.500040001⎞⎠⎟(0.500040001)



⎛⎝⎜−20000.250001⎞⎠⎟(−20000.250001)



⎛⎝⎜2000−0.25000−1⎞⎠⎟(2000−0.25000−1)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

⎛⎝⎜−20000.250001⎞⎠⎟(−20000.250001)

***1 point***

 If A = (3124)(3214), then A (adj A) equals ............



(100010)(100010)



(010100)(010100)



(101110)(101110)



(11110)(11110)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

(100010)(100010)

***1 point***

A matrix A is idempotent if



A2=AA2=A



A2=−AA2=−A



A2=0A2=0



A2=2AA2=2A

Yes, the answer is correct.  
Score: 1

Accepted Answers:

A2=AA2=A

What is singular matrix? Give an example.



No, the answer is incorrect.  
Score: 0

Accepted Answers:

*(Type: String) A square matrix that does not have a matrix inverse. A matrix is singular iff its determinant is 0.*

***1 point***

***1 point***

If (3−12)(3−12) B = (56)(56) , then the order of the matrix B is



3 ×× 1



1 ×× 3



3 ×× 2



1 ×× 1

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*3*××*2*

***1 point***

If A = ⎛⎝⎜200020002⎞⎠⎟(200020002) and B = ⎛⎝⎜100210332⎞⎠⎟(123013002), then the determinant | A B | has the value

 4

 8

 16

 32

No, the answer is incorrect.  
Score: 0

Accepted Answers:

*16*

***1 point***

The inverse of the matrix ⎛⎝⎜3200012−21⎞⎠⎟is(30220−2011)is



⎛⎝⎜0.2−0.20.20.20.3−0.3010⎞⎠⎟(0.20.20−0.20.310.2−0.30)



⎛⎝⎜0.20.20.20.20.3−0.3010⎞⎠⎟(0.20.200.20.310.2−0.30)



⎛⎝⎜0.2−0.20.20.2−0.3−0.3010⎞⎠⎟(0.20.20−0.2−0.310.2−0.30)



⎛⎝⎜0.2−0.20.20.20.3−0.30−10⎞⎠⎟(0.20.20−0.20.3−10.2−0.30)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

⎛⎝⎜0.2−0.20.20.20.3−0.3010⎞⎠⎟

Week 2

***1 point***

The system of equations x + 2 y + z = 9, 2 x + y + 3 z = 7 can be expressed as



(122113)=(97)⎛⎝⎜xyz⎞⎠⎟(121213)=(97)(xyz)



(122113)(97)=⎛⎝⎜xyz⎞⎠⎟(121213)(97)=(xyz)



(122113)⎛⎝⎜xyz⎞⎠⎟=(97)(121213)(xyz)=(97)



(122113)⎛⎝⎜xyz⎞⎠⎟=(−9−7)(121213)(xyz)=(−9−7)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

(122113)⎛⎝⎜xyz⎞⎠⎟=(97)(121213)(xyz)=(97)

***1 point***

If (5141)X=(11−23)(5411)X=(1−213), then X equals to ..............



(−34−1417)(−3−14417)



(13−21)(1−231)



(1−231)(13−21)



(34−14−17)(3−144−17)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

(−34−1417)(−3−14417)

***1 point***

If 3 x + 2 y + z = 0, x + 4 y + z = 0, 2 x + y + 4 z = 0 is a system of equations, then

 it is inconsistent.

 it has only the trivial solution x = 0, y = 0, z = 0.

 it can be reduced to a single equation and so the solution does not exist.

 determinant of the matrix of coefficients is zero

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*it has only the trivial solution x = 0, y = 0, z = 0.*

***1 point***

The maximum value of the rank of a 4 ×× 5 matrix is

 4

 5

 3

 2

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*4*

***1 point***

The rank of the matrix ⎛⎝⎜114225336⎞⎠⎟(123123456) is

 3

 2

 1

 0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*2*

***1 point***

The rank of matrix ⎛⎝⎜215−14231−2143⎞⎠⎟(2−13114−215243) is

 2

 3

 1

 0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*3*

***1 point***

The rank of a unit (identity) matrix of order 4 is

 1

 4

 3

 5

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*4*

***1 point***

The rank of the matrix ⎛⎝⎜⎜⎜3451045611567126781378914⎞⎠⎟⎟⎟(3456745678567891011121314) is

 4

 5

 1

 2

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*2*

***1 point***

An example of a 3×33×3 matrix of rank one is



⎛⎝⎜246369123⎞⎠⎟(231462693)



⎛⎝⎜200020002⎞⎠⎟(200020002)



⎛⎝⎜000000000⎞⎠⎟(000000000)



⎛⎝⎜200060003⎞⎠⎟(200060003)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

⎛⎝⎜246369123⎞⎠⎟(231462693)

***1 point***

The solution of the system of equations x + 2 y + 3 z = 0, 3 x + 4 y + 4 z = 0, 7 x + 10 y + 12 z = 0 is

 x = 1, y = 2, z = 0

 x = y = z = 0

 x = -1, y = 2, z = 0

 x = y = z = 5

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*x = y = z = 0*

***1 point***

For what values of  `a', the following homogeneous system has a non-trivial solution?. x - 2 y + 3 z = 0, a x + 3 y + 2 z = 0, 6 x + y + a z = 0.

 a = 2



a = −5−5

 a = 5

 a = 6

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*a = 5*

***1 point***

The characteristic equation of the matrix A is



|2λI−A|=0|2λI−A|=0



|λI−2A|=0|λI−2A|=0



|λI−A|=0|λI−A|=0



|λI+A|=0|λI+A|=0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

|λI−A|=0|λI−A|=0

***1 point***

For what value of a the matrix ⎛⎝⎜50131a810⎞⎠⎟(5380111a0) is singular?

 3

 -1

 -6

 9

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*-1*

***1 point***

The complementary function of (E2−9)yn=(10)n(E2−9)yn=(10)n is



c13n+c2(−3)nc13n+c2(−3)n



c13n+c2(−6)nc13n+c2(−6)n



c1+c26nc1+c26n



c1+c2(−6)nc1+c2(−6)n

No, the answer is incorrect.  
Score: 0

Accepted Answers:

c13n+c2(−3)nc13n+c2(−3)n

***1 point***

If every minor of order r of a matrix A is zero, then rank of A is

 greater than r.

 equal to r.

 less than or equal to r.

 less than r.

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*less than r.*

week 3

The sum of the eigen values of a matrix is the ................... of the elements of the principal diagonal

 difference

 product

 sum

 division

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*sum*

***1 point***

If the two eigen values of the matrix ⎛⎝⎜8−62−67−42−43⎞⎠⎟(8−62−67−42−43) are 3 and 15, then the third eigen value is

 0

 1

 2

 3

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*0*

***1 point***

The product of the eigen values of the matrix ⎛⎝⎜10003−10−13⎞⎠⎟(10003−10−13) is



−7−7

 8



−8−8

 9

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*8*

***1 point***

The quadratic form corresponding to the symmetric matrix (122−4)(122−4) is



x2−4xy−4y2x2−4xy−4y2



x2+4xy−4y2x2+4xy−4y2



x2+4xy+4y2x2+4xy+4y2



x2+4y−4y2x2+4y−4y2

Yes, the answer is correct.  
Score: 1

Accepted Answers:

x2+4xy−4y2x2+4xy−4y2

***1 point***

The eigen values of the matrix ⎛⎝⎜6−22−23−12−13⎞⎠⎟(6−22−23−12−13) are



−2,2,8−2,2,8



2,2,−82,2,−8

 2, 2, 8



−2,−2,8−2,−2,8

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*2, 2, 8*

***1 point***

If A = ⎛⎝⎜−10023035−2⎞⎠⎟(−12303500−2), then the eigen values of A2A2 are



1,16,811,16,81



−1,4,9−1,4,9



−1,2,3−1,2,3

 1, 4, 9

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*1, 4, 9*

***1 point***

The eigen values of matrix (22–√2–√2)(2222) are



1±6–√1±6



2±2–√2±2



1±i6–√1±i6



3±6–√3±6

Yes, the answer is correct.  
Score: 1

Accepted Answers:

2±2–√2±2

***1 point***

The eigen values of a triangular matrix are

 zeros.

 row elements.

 column elements.

 elements of its leading diagonal.

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*elements of its leading diagonal.*

***1 point***

The matrix of the quadratic form q = 4x2−2y2+z2−2xy+6zx4x2−2y2+z2−2xy+6zx is



⎛⎝⎜4−13−120301⎞⎠⎟(4−13−120301)



⎛⎝⎜4−13−1−20301⎞⎠⎟(4−13−1−20301)



⎛⎝⎜413−1−20301⎞⎠⎟(4−131−20301)



⎛⎝⎜4−13120301⎞⎠⎟(413−120301)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

⎛⎝⎜4−13−1−20301⎞⎠⎟(4−13−1−20301)

***1 point***

The matrices A = (12−30)(1−320) and B = (0−321)(02−31) are similar then P−1P−1 = .......



(12−31)(1−321)



(−12−30)(−1−320)



(0110)(0110)



(42−30)(4−320)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

(0110)(0110)

***1 point***

The eigen vectors of the matrix (−17−103018)(−1730−1018) are



x1=(21),x2=(32)x1=(21),x2=(32)



x1=(22),x2=(32)x1=(22),x2=(32)



x1=(21),x2=(72)x1=(21),x2=(72)



x1=(21),x2=(36)x1=(21),x2=(36)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

x1=(21),x2=(32)x1=(21),x2=(32)

***1 point***

The matrices A and B are said to be similar if there exist an invertible matrix P such that B = .......



P−1A2PP−1A2P



P−1A−1PP−1A−1P



P−1A3PP−1A3P



P−1APP−1AP

Yes, the answer is correct.  
Score: 1

Accepted Answers:

P−1APP−1AP

***1 point***

Let A be 2 ×× 2 matrix with the eigen values 1, 3, then eigen values of ATAT (Transpose of A) are



−1,−3−1,−3



−1,3−1,3



1,−31,−3

 1,  3

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*1,  3*

***1 point***

The eigen values of the matrix (−17−103018)(−1730−1018) are

 2, 3



−2,3−2,3



2,−32,−3

 4, 6

Yes, the answer is correct.  
Score: 1

Accepted Answers:

−2,3−2,3

***1 point***

If A is a 3X3 singular matrix then the product of its eigen values is

 sum of the diagonal elements

 product of the diagonal elements

 0

 -1

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*0*

Week 4

***1 point***

If y=ax+bx2y=ax+bx2 then the corresponding difference equation is



(x2+x)yx+2−(2x2+4x)yx+1+(x2+3x+2)yx=0(x2+x)yx+2−(2x2+4x)yx+1+(x2+3x+2)yx=0



(x2+1)yx+2−(2x2+4x)yx+1+(x2+3x+2)yx=0(x2+1)yx+2−(2x2+4x)yx+1+(x2+3x+2)yx=0



(x2+x)yx+2−(2x2+4)yx+1+(x2+3x+2)yx=0(x2+x)yx+2−(2x2+4)yx+1+(x2+3x+2)yx=0



(x2+x)yx+2−(2x2+4x)yx+1=0(x2+x)yx+2−(2x2+4x)yx+1=0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

(x2+x)yx+2−(2x2+4x)yx+1+(x2+3x+2)yx=0(x2+x)yx+2−(2x2+4x)yx+1+(x2+3x+2)yx=0

***1 point***

If y=A2n+B(−3)ny=A2n+B(−3)n then the corresponding difference equation



yn+2+yn+1−6=0yn+2+yn+1−6=0



yn+2+yn+1−6yn=0yn+2+yn+1−6yn=0



yn+2−6yn=0yn+2−6yn=0



yn+2+yn+1−5yn=0yn+2+yn+1−5yn=0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

yn+2+yn+1−6yn=0yn+2+yn+1−6yn=0

***1 point***

 The difference equation of un=a2n+1un=a2n+1 is



un+1+2un=0un+1+2un=0



un+1−2=0un+1−2=0



un+1−2un=0un+1−2un=0



un+1−3un=0un+1−3un=0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un+1−2un=0un+1−2un=0

***1 point***

The difference equation of yn=a3n+b5nyn=a3n+b5n is



yn+2−8yn+1+15yn=0yn+2−8yn+1+15yn=0



yn+2−6yn+1+15yn=0yn+2−6yn+1+15yn=0



yn+2−9yn+1+18yn=0yn+2−9yn+1+18yn=0



yn+2+8yn+1+15yn=0yn+2+8yn+1+15yn=0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

yn+2−8yn+1+15yn=0yn+2−8yn+1+15yn=0

***1 point***

The difference equation of yn=(a+bn)2nyn=(a+bn)2n is



yn+2−6yn+1+4yn=0yn+2−6yn+1+4yn=0



yn+2−4yn+1+4yn=0yn+2−4yn+1+4yn=0



yn+2−6yn+1+9yn=0yn+2−6yn+1+9yn=0



yn+2−6yn+1+yn=0yn+2−6yn+1+yn=0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

yn+2−4yn+1+4yn=0yn+2−4yn+1+4yn=0

***1 point***

The difference equation of  yn=a2n+b(−2)nyn=a2n+b(−2)n is



yn+2+4yn=0yn+2+4yn=0



yn+2−4yn=0yn+2−4yn=0



yn+2−9yn=0yn+2−9yn=0



yn+2−16yn=0yn+2−16yn=0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

yn+2−4yn=0yn+2−4yn=0

***1 point***

The difference equation of yn=a2n+b3n+cyn=a2n+b3n+c is



yn+3+6yn+2+11yn+1−6yn=0yn+3+6yn+2+11yn+1−6yn=0



yn+3−6yn+2−11yn+1−6yn=0yn+3−6yn+2−11yn+1−6yn=0



yn+3−6yn+2+11yn+1+6yn=0yn+3−6yn+2+11yn+1+6yn=0



yn+3−6yn+2+11yn+1−6yn=0yn+3−6yn+2+11yn+1−6yn=0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

yn+3−6yn+2+11yn+1−6yn=0yn+3−6yn+2+11yn+1−6yn=0

***1 point***

The solution of the difference equation  un+3−2un+2−5un+1+6un=0un+3−2un+2−5un+1+6un=0 is



un=a1n+b(−2)n+c3nun=a1n+b(−2)n+c3n



un=a1n+b(−2)n+c(−3)nun=a1n+b(−2)n+c(−3)n



un=a+b(−2)n+c(−3)nun=a+b(−2)n+c(−3)n



un=a(−1)n+b(−2)n+c(−3)nun=a(−1)n+b(−2)n+c(−3)n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un=a1n+b(−2)n+c3nun=a1n+b(−2)n+c3n

***1 point***

The solution of the Fibonacci difference equation is



yn=5−5√10(1−5√2)n+5+5√10(1+5√2)nyn=5−510(1−52)n+5+510(1+52)n



yn=5−5√2(1−5√2)n+5+5√2(1+5√2)nyn=5−52(1−52)n+5+52(1+52)n



yn=5−5√3(1−5√2)n+5+5√3(1+5√2)nyn=5−53(1−52)n+5+53(1+52)n



yn=5−5√2(1−5√10)n+5+5√2(1+5√10)nyn=5−52(1−510)n+5+52(1+510)n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

yn=5−5√10(1−5√2)n+5+5√10(1+5√2)nyn=5−510(1−52)n+5+510(1+52)n

***1 point***

The solution of the difference equation un+2−6un+1+9un=0un+2−6un+1+9un=0 is



un=(a+bn)2nun=(a+bn)2n



un=(a+bn)1nun=(a+bn)1n



un=(a+bn)(−3)nun=(a+bn)(−3)n



un=(a+bn)3nun=(a+bn)3n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un=(a+bn)3nun=(a+bn)3n

***1 point***

The solution of  Δ2un+2Δun+un=0Δ2un+2Δun+un=0 is



unun = a + b n



un=acosnπ+bsinnπun=acos⁡nπ+bsin⁡nπ



un=acosπn3+bsinπn3un=acos⁡πn3+bsin⁡πn3



un=acosπn4+bsinπn4un=acos⁡πn4+bsin⁡πn4

Yes, the answer is correct.  
Score: 1

Accepted Answers:

unun*= a + b n*

***1 point***

The solution of (Δ2−3Δ+2)un=0(Δ2−3Δ+2)un=0 is



un=c11n+c23nun=c11n+c23n



un=c12n+c21nun=c12n+c21n



un=c12n+c24nun=c12n+c24n



un=c12n+c23nun=c12n+c23n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un=c12n+c23nun=c12n+c23n

***1 point***

The solution of un−4un+2=0un−4un+2=0 with u0=1u0=1, u1=2u1=2 is



un=52(2−n)−32(−12)nun=52(2−n)−32(−12)n



un=2n−1+(−3)n−1un=2n−1+(−3)n−1



un=2n−1+(−1)n−1un=2n−1+(−1)n−1



un=2n−1+(−4)n−1un=2n−1+(−4)n−1

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un=52(2−n)−32(−12)nun=52(2−n)−32(−12)n

***1 point***

Solution of  un+3−3un+2+4un=0un+3−3un+2+4un=0 is



un=c1(−1)n+(c2+c3n)2nun=c1(−1)n+(c2+c3n)2n



un=c1(−1)n+(c2+c3n)3nun=c1(−1)n+(c2+c3n)3n



un=c1+(c2+c3n)3nun=c1+(c2+c3n)3n



un=c1(−1)n−(c2+c3n)3nun=c1(−1)n−(c2+c3n)3n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un=c1(−1)n+(c2+c3n)2nun=c1(−1)n+(c2+c3n)2n

***1 point***

The particular integral of (4E2−4E+1)yn=2n+2−n(4E2−4E+1)yn=2n+2−n is



2n9+n(12)−n2n9+n(12)−n



2n9+n(n−1)(12)−n2n9+n(n−1)(12)−n



2n9+n(n+1)(12)−n2n9+n(n+1)(12)−n



2n9+n(n−1)(12)n+12n9+n(n−1)(12)n+1

Yes, the answer is correct.  
Score: 1

Accepted Answers:

2n9+n(n−1)(12)−n

Week 5

If un+1−2un−vn=0,2un−vn+1+3vn=0,un+1−2un−vn=0,2un−vn+1+3vn=0,, then



un+2+5un+1+6un=0un+2+5un+1+6un=0



un+2−5un+1+4un=0un+2−5un+1+4un=0



un+2−5un+1+6un=0un+2−5un+1+6un=0



un+2+5un+1+4un=0un+2+5un+1+4un=0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un+2−5un+1+4un=0un+2−5un+1+4un=0

***1 point***

If un+1−2un−vn=0,2un−vn+1+3vn=0,un+1−2un−vn=0,2un−vn+1+3vn=0, then unun is .............



A+B(4n)A+B(4n)



A+B(5n)A+B(5n)



A+B(3n)A+B(3n)



A+B(2n)A+B(2n)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

A+B(4n)A+B(4n)

***1 point***

If un+1−2un−vn=0,2un−vn+1+3vn=0,un+1−2un−vn=0,2un−vn+1+3vn=0, then vnvn  is .............



−A+2B(2n)−A+2B(2n)



−A+2B(3n)−A+2B(3n)



−A+2B(4n)−A+2B(4n)



−A+2B(5n)−A+2B(5n)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

−A+2B(4n)−A+2B(4n)

***1 point***

If un+1−2un−vn=0,2un−vn+1+3vn=0, given that u0=1,v0=2, then un is .............If un+1−2un−vn=0,2un−vn+1+3vn=0, given that u0=1,v0=2, then un is .............



5n5n



3n3n



2n2n



4n4n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

4n4n

***1 point***

If un+1−2un−vn=0,2un−vn+1+3vn=0, given that u0=1,v0=2, then vn is .............If un+1−2un−vn=0,2un−vn+1+3vn=0, given that u0=1,v0=2, then vn is .............



2(2n)2(2n)



2(4n)2(4n)



2(5n)2(5n)



2(3n)2(3n)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

2(4n)2(4n)

***1 point***

If un+1−7un−vn=−6(2n)−3(3n),8un+vn+1−vn=9(2n)+6(3n), thenIf un+1−7un−vn=−6(2n)−3(3n),8un+vn+1−vn=9(2n)+6(3n), then



un+2+8un+1+15un=3(2n)un+2+8un+1+15un=3(2n)



un+2+8un+1+15un=2(2n)un+2+8un+1+15un=2(2n)



un+2−8un+1+15un=3(2n)un+2−8un+1+15un=3(2n)



un+2−8un+1+15un=2(2n)un+2−8un+1+15un=2(2n)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un+2−8un+1+15un=3(2n)un+2−8un+1+15un=3(2n)

***1 point***

If un+1−7un−vn=−6(2n)−3(3n),8un+vn+1−vn=9(2n)+6(3n), then un is .............If un+1−7un−vn=−6(2n)−3(3n),8un+vn+1−vn=9(2n)+6(3n), then un is .............



A(3n)+B(5n)+2nA(3n)+B(5n)+2n



A(3n)+B(5n)−2nA(3n)+B(5n)−2n



A(4n)+B(5n)+2nA(4n)+B(5n)+2n



A(4n)+B(5n)−2nA(4n)+B(5n)−2n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

A(3n)+B(5n)+2nA(3n)+B(5n)+2n

***1 point***

 If un+1−7un−vn=−6(2n)−3(3n),8un+vn+1−vn=9(2n)+6(3n), then vn is ............. If un+1−7un−vn=−6(2n)−3(3n),8un+vn+1−vn=9(2n)+6(3n), then vn is .............



(4A+3)(3n)+2B(5n)+6n(4A+3)(3n)+2B(5n)+6n



(−4A+3)(3n)−2B(5n)+2n(−4A+3)(3n)−2B(5n)+2n



(−4A+3)(3n)+2B(5n)+4n(−4A+3)(3n)+2B(5n)+4n



(4A−3)(3n)−2B(5n)+7n(4A−3)(3n)−2B(5n)+7n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

(−4A+3)(3n)−2B(5n)+2n(−4A+3)(3n)−2B(5n)+2n

***1 point***

 If un+1−7un−vn=−6(2n)−3(3n),8un+vn+1−vn=9(2n)+6(3n), given that u0=2,v0=0, then un is ............. If un+1−7un−vn=−6(2n)−3(3n),8un+vn+1−vn=9(2n)+6(3n), given that u0=2,v0=0, then un is .............



3n+5n−2n3n+5n−2n



3n+2n3n+2n



−(1/2)(3n)−(1/2)(5n)+2n−(1/2)(3n)−(1/2)(5n)+2n



(1/2(3n)+(1/2)(5n)+2n(1/2(3n)+(1/2)(5n)+2n

No, the answer is incorrect.  
Score: 0

Accepted Answers:

(1/2(3n)+(1/2)(5n)+2n(1/2(3n)+(1/2)(5n)+2n

***1 point***

 If un+1−7un−vn=−6(2n)−3(3n),8un+vn+1−vn=9(2n)+6(3n), given that u0=2,v0=0, then vn is ............. If un+1−7un−vn=−6(2n)−3(3n),8un+vn+1−vn=9(2n)+6(3n), given that u0=2,v0=0, then vn is.............



2n−3n2n−3n



3n−2n3n−2n



3n+5n+2n3n+5n+2n



−3n−5n+2n−3n−5n+2n

No, the answer is incorrect.  
Score: 0

Accepted Answers:

−3n−5n+2n−3n−5n+2n

***1 point***

 If un+1−un−vn=n,3un+vn+1−5vn=5n−1, then If un+1−un−vn=n,3un+vn+1−5vn=5n−1, then



un+2−6un+1+8un=nun+2−6un+1+8un=n



un+2−6un+1+8un=n2un+2−6un+1+8un=n2



un+2+6un+1+8un=nun+2+6un+1+8un=n



un+2+6un+1+8un=n2un+2+6un+1+8un=n2

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un+2−6un+1+8un=nun+2−6un+1+8un=n

***1 point***

 If un+1−un−vn=n,3un+vn+1−5vn=5n−1, then un is ............. If un+1−un−vn=n,3un+vn+1−5vn=5n−1, then un is .............



A(2n)+B(4n)+3n−49A(2n)+B(4n)+3n−49



A(2n)+B(4n)+3n+49A(2n)+B(4n)+3n+49



A(2n)+B(4n)+3n+43A(2n)+B(4n)+3n+43



A(2n)+B(4n)+3n−43A(2n)+B(4n)+3n−43

Yes, the answer is correct.  
Score: 1

Accepted Answers:

A(2n)+B(4n)+3n+49A(2n)+B(4n)+3n+49

***1 point***

If un+1−un−vn=n,3un+vn+1−5vn=5n−1, then vn is .............If un+1−un−vn=n,3un+vn+1−5vn=5n−1, then vn is .............



A(2n)+B(4n)+3n−43A(2n)+B(4n)+3n−43



A(2n)+3B(4n)+3n+59A(2n)+3B(4n)+3n+59



A(2n)+3B(4n)+3n+13A(2n)+3B(4n)+3n+13



A(2n)+3B(4n)+−3n+13A(2n)+3B(4n)+−3n+13

Yes, the answer is correct.  
Score: 1

Accepted Answers:

A(2n)+3B(4n)+−3n+13A(2n)+3B(4n)+−3n+13

***1 point***

 If un+1−un−vn=n,3un+vn+1−5vn=5n−1, given that u0=2,v0=0, then un is ............. If un+1−un−vn=n,3un+vn+1−5vn=5n−1, given that u0=2,v0=0, then un is.............



52(2n)+1718(4n)+3n52(2n)+1718(4n)+3n



2n+4n+3n+432n+4n+3n+43



52(2n)−1718(4n)+3n+4952(2n)−1718(4n)+3n+49



2n−1+4n+3n−432n−1+4n+3n−43

Yes, the answer is correct.  
Score: 1

Accepted Answers:

52(2n)−1718(4n)+3n+4952(2n)−1718(4n)+3n+49

***1 point***

 If un+1−un−vn=n,3un+vn+1−5vn=5n−1, given that u0=2,v0=0, then vn is ............. If un+1−un−vn=n,3un+vn+1−5vn=5n−1, given that u0=2,v0=0, then vn is.............



2n+4n+3n−432n+4n+3n−43



2n−1+4n+3n+592n−1+4n+3n+59



2n−1+(16)4n+3n+132n−1+(16)4n+3n+13



52(2n)−176(4n)+1−3n352(2n)−176(4n)+1−3n3

Yes, the answer is correct.  
Score: 1

Accepted Answers:

52(2n)−176(4n)+1−3n3

Week 6

***1 point***

A sequence of numbers is such that the (n+2)th number of the sequence is thrice the (n+1)th number minus twice the nth number, where n≥0. Then, the nth number of the sequence is given by the difference equationA sequence of numbers is such that the (n+2)th number of the sequence is thrice the (n+1)th number minustwice the nth number, where n≥0. Then, the nth number of the sequence is given by the difference equation



un+2+3un+1+2un=0un+2+3un+1+2un=0



un+2−3un+1+2un=0un+2−3un+1+2un=0



un+2−3un+1−2un=0un+2−3un+1−2un=0



un+2+3un+1−2un=0un+2+3un+1−2un=0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un+2−3un+1+2un=0un+2−3un+1+2un=0

***1 point***

A sequence of numbers is such that the (n+2)th number of the sequence is thrice the (n+1)th number minus twice the nth number, where n≥0. Then, the nth number of the sequence is given byA sequence of numbers is such that the (n+2)th number of the sequence is thrice the (n+1)th number minustwice the nth number, where n≥0. Then, the nth number of the sequence is given by



un=A(3n)+B(2n)un=A(3n)+B(2n)



un=A(4n)+B(2n)un=A(4n)+B(2n)



un=A+B(2n)un=A+B(2n)



un=A+B(3n)un=A+B(3n)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un=A+B(2n)un=A+B(2n)

***1 point***

A sequence of numbers is such that the (n+2)th number of the sequence is thrice the (n+1)th number minus twice the nth number, where n≥0. The first number is zero and the second is unity. Then, the nth number of the sequence is given byA sequence of numbers is such that the (n+2)th number of the sequence is thrice the (n+1)th number minustwice the nth number, where n≥0. The first number iszero and the second is unity. Then, the nth number of thesequence is given by



un=−1+2nun=−1+2n



un=4n+2nun=4n+2n



un=3n+2nun=3n+2n



un=1+3nun=1+3n

No, the answer is incorrect.  
Score: 0

Accepted Answers:

un=−1+2nun=−1+2n

***1 point***

A sequence of numbers is such that the (n+2)th number of the sequence is thrice the (n+1)th number minus twice the nth number, where n≥0. The first number is zero and the second is unity. Then, the the sequence is given byA sequence of numbers is such that the (n+2)th number of the sequence is thrice the (n+1)th number minustwice the nth number, where n≥0. The first number iszero and the second is unity. Then, the the sequence is given by

 0, 1, 2, 4, 6, .....

 0, 1, 3, 5, 7,.....

 0, 1, 3, 7, 17, ....



0, 1, 3, 7, 15, ........

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*0, 1, 3, 7, 15, ........*

***1 point***

A surface of circle is divided into subparts by drawing

the straight line through its centre. Assume that at least one

straight line should be drawn for getting subparts. The number of

the subparts after drawing n straight lines is given by the

difference equation is ....



un+1=un+2nun+1=un+2n



un+1=un+3un+1=un+3



un+1=un+2un+1=un+2



un+1=un−1+2nun+1=un−1+2n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un+1=un+2un+1=un+2

***1 point***

A surface of circle is divided into subparts by drawing

the straight line through its centre. Assume that at least one

straight line should be drawn for getting subparts. The number of

the subparts after drawing n straight lines is given by



un=A+2nun=A+2n



un=A+3nun=A+3n



un=An+2nun=An+2n



un=A(n−1)+2nun=A(n−1)+2n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un=A+2nun=A+2n

***1 point***

A surface of circle is divided into subparts by drawing the straight line through its centre. Assume that u1 = 2. The number of the subparts after drawing n straight lines is given byA surface of circle is divided into subparts by drawingthe straight line through its centre. Assume that u1 = 2. Thenumber of the subparts after drawing n straight lines is givenby



un=1+2nun=1+2n



un=2nun=2n



un=2+2nun=2+2n



un=1+3nun=1+3n

No, the answer is incorrect.  
Score: 0

Accepted Answers:

un=2nun=2n

***1 point***

A surface of circle is divided into subparts by drawing the straight line through its centre. Assume that u1 = 2. Then the sequence of number of the subparts is given byA surface of circle is divided into subparts by drawingthe straight line through its centre. Assume that u1 = 2. Thenthe sequence of number of the subparts is given by

 2, 4, 8, 16, ....

 2, 6, 10, 14, ....

 2, 3, 5, 7, .....

 2, 4, 6, 8, ......

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*2, 4, 6, 8, ......*

***1 point***

A man has an apple. He divides it into three equal parts

and he kept one piece with him and give one each to two people.

These two people do the same as the first one did. Find the total

number of of pieces the apple after n stage. The total number of

 pieces of the apple after n stages is given by



un+1=un+3nun+1=un+3n



un+1=un+2nun+1=un+2n



un+1=un−2nun+1=un−2n



un+1=un−3nun+1=un−3n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un+1=un+2nun+1=un+2n

***1 point***

A man has an apple. He divides it into three equal

parts and he kept one piece with him and give one each to two

people. These two people do the same as the first one did. Find

the total number of of pieces the apple after n stage. The total

number of the pieces of apple after n stage is given by



un=A+3nun=A+3n



un=A(3n)+2nun=A(3n)+2n



un=A+2nun=A+2n



un=A(2n)+3nun=A(2n)+3n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un=A+2nun=A+2n

***1 point***

A man has an apple. He divides it into three equal

parts and he kept one piece with him and give one each to two

people. These two people do the same as the first one did. Find

the total number of of pieces the apple after n stage. The total

number of the pieces of apple after n stage is given by



un=1+3nun=1+3n



un=−1+2nun=−1+2n



un=3n+2nun=3n+2n



un=−2n+3nun=−2n+3n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

un=−1+2nun=−1+2n

***1 point***

A man has an apple. He divides it into three equal

parts and he kept one piece with him and give one each to two

people. These two people do the same as the first one did. Find

the total number of of pieces the apple after n stage. The total

number of the pieces of apple after n stage is given by

 1, 2, 4, 6, .....

 1, 3, 5, 7,.....

 1, 3, 7, 17, ....

 1, 3, 7, 15, ........

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*1, 3, 7, 15, ........*

***1 point***

If In = ∫x=0πsin(nx)cosx−cosadx, n is any integer, then the corresponding difference equation isIf In = ∫x=0πsin⁡(nx)cos⁡x−cos⁡adx, n is any integer, then thecorresponding difference equation is



In+2+(2sina)In+1+In=2[(−1)n+1n+1]In+2+(2sin⁡a)In+1+In=2[(−1)n+1n+1]



In+2−(2cosa)In+1+In=2[(−1)n+1n+1]In+2−(2cos⁡a)In+1+In=2[(−1)n+1n+1]



In+2−(2sina)In+1+In=2[(−1)n+1n+1]In+2−(2sin⁡a)In+1+In=2[(−1)n+1n+1]



In+2+(2cosa)In+1+In=2[(−1)n+1n+1]In+2+(2cos⁡a)In+1+In=2[(−1)n+1n+1]

Yes, the answer is correct.  
Score: 1

Accepted Answers:

In+2−(2cosa)In+1+In=2[(−1)n+1n+1]In+2−(2cos⁡a)In+1+In=2[(−1)n+1n+1]

***1 point***

If In = ∫x=0πsin(nx)cosx−cosadx, n is odd then the corresponding difference equation isIf In = ∫x=0πsin⁡(nx)cos⁡x−cos⁡adx, n is odd then thecorresponding difference equation is



In+2+(2sina)In+1+In=0In+2+(2sin⁡a)In+1+In=0



In+2−(2cosa)In+1+In=0In+2−(2cos⁡a)In+1+In=0



In+2−(2sina)In+1+In=4n+1In+2−(2sin⁡a)In+1+In=4n+1



In+2+(2cosa)In+1+In=4n+1In+2+(2cos⁡a)In+1+In=4n+1

Yes, the answer is correct.  
Score: 1

Accepted Answers:

In+2−(2cosa)In+1+In=0In+2−(2cos⁡a)In+1+In=0

***1 point***

If In = ∫x=0πsin(nx)cosx−cosadx, n is odd then the solution isIf In = ∫x=0πsin⁡(nx)cos⁡x−cos⁡adx, n is odd then the solutionis



In=A2n+B3nIn=A2n+B3n



In=A(cosa+isina)n+B(cosa−isina)nIn=A(cos⁡a+isin⁡a)n+B(cos⁡a−isin⁡a)n



In=A3n+B4nIn=A3n+B4n



In=A2n+B5nIn=A2n+B5n

Yes, the answer is correct.  
Score: 1

Accepted Answers:

In=A(cosa+isina)n+B(cosa−isina)n

Week 7

 The orde of the differential equation  (D4−a4)y=0(D4−a4)y=0 is

 2

 4

 3

 1

***1 point***

The solution of the differential equation y′′+y=0y″+y=0 satisfying the conditions  y(0)=1y(0)=1and  y(π2)=2y(π2)=2 is



y=cosx−2sinxy=cos⁡x−2sin⁡x



y=−cosx+2sinxy=−cos⁡x+2sin⁡x



y=cosx+2sinxy=cos⁡x+2sin⁡x



y=cosx+4sinxy=cos⁡x+4sin⁡x

***1 point***

 The integrating factor of dydx+2yx=e4xdydx+2yx=e4x is



logxlog⁡x



x2x2



exex



xx

***1 point***

 The general solution of the differential equation (D4−6D3+12D2−8D)y=0(D4−6D3+12D2−8D)y=0 is



y=c1+(c2−c3x+c4x2)e−2xy=c1+(c2−c3x+c4x2)e−2x



y=c1+(c2+c3x−c4x2)exy=c1+(c2+c3x−c4x2)ex



y=c1+(−c2+c3x+c4x2)e−xy=c1+(−c2+c3x+c4x2)e−x



y=c1+(c2+c3x+c4x2)e2xy=c1+(c2+c3x+c4x2)e2x

***1 point***

The general solution of (D2−2)2y=0(D2−2)2y=0 is



y=(c1+c2x)e2√x−(c3+c4x)e2√xy=(c1+c2x)e2x−(c3+c4x)e2x



y=(c1+c2x)e2√x+(c3+c4x)e−2√xy=(c1+c2x)e2x+(c3+c4x)e−2x



y=(c1+c2x)e2√x+(c3+c4x)e2xy=(c1+c2x)e2x+(c3+c4x)e2x



y=(c1+c2x)e−2√x+(c3−c4x)e−2√xy=(c1+c2x)e−2x+(c3−c4x)e−2x

***1 point***

 Integrating factor of dydx+1xlogx.y=2x2dydx+1xlog⁡x.y=2x2 is



exex



logxlog⁡x



1x1x



e−xe−x

***1 point***

A Solution of dxdy+mx=0dxdy+mx=0 , where m<0m<0 is



x=cemyx=cemy



x=ce−myx=ce−my



x=my+cx=my+c



x=cx=c

***1 point***

The differential equation (dxdy)2+5y=x(dxdy)2+5y=x is

 of order 2 and degree 1

 of order 1 and degree 2

  of order 1 and degree 6

 of order 1 and degree 3

***1 point***

The integrating factor of the differential equation dydx+Py=Qdydx+Py=Q is



∫Pdx∫Pdx



∫Qdx∫Qdx



e∫Qdxe∫Qdx



e∫Pdxe∫Pdx

***1 point***

 If cosxcos⁡x is an integrating factor of the differential equation dydx+Py=Qdydx+Py=Q, then P=P=



−cotx−cot⁡x



cotxcot⁡x



tanxtan⁡x



−tanx−tan⁡x

***1 point***

The integrating factor of  dx+xdy=e−ysec2ydydx+xdy=e−ysec2⁡ydy is



exex



e−xe−x



eyey



e−ye−y

***1 point***

If y=keλxy=keλx, then its differential equation is



dydx=λydydx=λy



dydx=kydydx=ky



dydx+ky=0dydx+ky=0



dydx=eλxdydx=eλx

***1 point***

The complementary function of (D2+1)y=e2x(D2+1)y=e2x is



(Ax+B)ex(Ax+B)ex



Acosx+BsinxAcos⁡x+Bsin⁡x



(Ax+B)e2x(Ax+B)e2x



(Ax+B)e−x(Ax+B)e−x

***1 point***

The general solution of  (4D3+4D2+D)y=0(4D3+4D2+D)y=0 is



y=(c1+c2x)ex2y=(c1+c2x)ex2



y=(−c1+c2x)e−x2y=(−c1+c2x)e−x2



y=(c1+c2x)e−x2+c3y=(c1+c2x)e−x2+c3



y=(c1+c2x)ex2+c3y=(c1+c2x)ex2+c3

***1 point***

e−x(c1cos3–√x+c2sin3–√x)+c3e2xe−x(c1cos⁡3x+c2sin3x)+c3e2x is the general solution of



d3ydx3+4y=0d3ydx3+4y=0



d3ydx3−8y=0d3ydx3−8y=0



d3ydx3+8y=0d3ydx3+8y=0



d3ydx3−2d2ydx2+dydx−2=0

week 8

The Particular integral of the differential equation (D2+2D+1)y=sin2x(D2+2D+1)y=sin⁡2x is



125(3sin2x+4cos2x)125(3sin⁡2x+4cos⁡2x)



−125(3sin2x−4cos2x)−125(3sin⁡2x−4cos⁡2x)



−125(3sin2x+4cos2x)−125(3sin⁡2x+4cos⁡2x)



−125(−3sin2x+4cos2x)−125(−3sin⁡2x+4cos⁡2x)

***1 point***

The Particular integral of  y′′−3y′+2y=12y″−3y′+2y=12 is



1616



−16−16

 6

 -6

***1 point***

The particular integral of the differential equation (D2−2D+5)2y=10(D2−2D+5)2y=10 is



2525

 2



5252

 5

***1 point***

The particular integral of (D2+a2)y=sinax(D2+a2)y=sinax is



−x2acosax−x2acos⁡ax



x2acosaxx2acos⁡ax



−ax2cosax−ax2cos⁡ax



ax2cosaxax2cos⁡ax

***1 point***

The particular integral of the differential equation (D2+1)y=2+ex(D2+1)y=2+ex is



2−ex2−ex



2+ex22+ex2



exex



22

***1 point***

If f(D)=D2−2,1f(D)e2x=f(D)=D2−2,1f(D)e2x=



12e2x12e2x



−12e2x−12e2x



12e−2x12e−2x



12ex12ex

***1 point***

The particular integral of d2ydx2+y=cosh3xd2ydx2+y=cosh3x is



−110cosh3x−110cosh3x



110cosh9x110cosh9x



−110cosh9x−110cosh9x



110cosh3x110cosh3x

***1 point***

If f(D)=D2+5,1f(D)sin2x=f(D)=D2+5,1f(D)sin⁡2x=



−sin2x−sin⁡2x



sin2xsin⁡2x



cos2xcos⁡2x



sin4xsin⁡4x

***1 point***

 The particular integral of  (D+1)2y=e−x(D+1)2y=e−x is



12x3e−x12x3e−x



12x2e−x12x2e−x



12x2ex12x2ex



14x2e−x14x2e−x

***1 point***

The particular integral of (3D2+D−14)y=13e2x(3D2+D−14)y=13e2x is



26xe2x26xe2x



13xe2x13xe2x



xe2xxe2x



x22e2xx22e2x

***1 point***

 The particular integral of d2ydx2+dydx=x2+2x+4d2ydx2+dydx=x2+2x+4 is



x33−4xx33−4x



x33+4x33+4



x33+4xx33+4x



x33+4x2x33+4x2

***1 point***

The solution of the differential equation d2ydx2−3dydx+2y=e3xd2ydx2−3dydx+2y=e3x is



y=c1ex+c2e2x+12e3xy=c1ex+c2e2x+12e3x



y=c1e−x+c2e−2x+12e3xy=c1e−x+c2e−2x+12e3x



y=c1e−x+c2e2x+12e3xy=c1e−x+c2e2x+12e3x



y=c1e−x+c2e2x+12e−3xy=c1e−x+c2e2x+12e−3x

***1 point***

The particular integral of the differential equation f(D)y=eaxf(D)y=eax  where f(D)=(D−a)g(D),g(a)≠0f(D)=(D−a)g(D),g(a)≠0 is



meaxmeax



eaxg(a)eaxg(a)



g(a)eaxg(a)eax



xeaxg(a)xeaxg(a)

***1 point***

The particular integral of (D2+16)y=sin4x(D2+16)y=sin⁡4x is



−x8cos4x−x8cos⁡4x



x2cos2xx2cos⁡2x



−x2cosx−x2cos⁡x



x2cos4xx2cos⁡4x

***1 point***

 The particular integral of d2ydx2+y=2xd2ydx2+y=2x is



−2x10−2x10



log2xlog2x



1(log2)21(log2)2



2x(log2)2+1

Week 9

The Wronskian of xx and exex is



ex(x−1)ex(x−1)



ex(x+1)ex(x+1)



−ex(x+1)−ex(x+1)



ex(−x+1)ex(−x+1)

***1 point***

 The Complementary function of x2y′′−xy′+2y=xlogxx2y″−xy′+2y=xlog⁡x is

 x [ A cos(logx) + B sin(logx)]

 x [A cosx + B sin x]

 log x [A cos x + B sin x]



exex[A cos(logx) + B sin(log x)]

***1 point***

The solution of  x2y′′+xy′=0x2y″+xy′=0 is

 y=A+B

 y=A + B log x

 y= Ax + B

 y= A x + B log x

***1 point***

The Particular integral of (D+1)2y=xe−x(D+1)2y=xe−x is



16x3ex16x3ex



16x3e−x16x3e−x



16x4e−x16x4e−x



15x3e−x15x3e−x

***1 point***

The linear differential equation with constant coefficient corresponding to the equation (x2D2+xD+7)y=2x(x2D2+xD+7)y=2x is



d2ydt2−7y=2etd2ydt2−7y=2et



d2ydt2+7y=4etd2ydt2+7y=4et



d2ydt2+8y=2etd2ydt2+8y=2et



d2ydt2+7y=2e−td2ydt2+7y=2e−t

***1 point***

The Wronskian of xx and logxlogx is



ex(x−1)ex(x−1)



ex(x+1)ex(x+1)



1−logx1−log⁡x



ex(−x+1)ex(−x+1)

***1 point***

The solution of the differential equation (D2−4)y=eix(D2−4)y=eix is



y=Ae2x+Be−2x−15exy=Ae2x+Be−2x−15ex



y=Ae2x+Be−2x−15e−xy=Ae2x+Be−2x−15e−x



y=Ae2x+Be−2x−15e−ixy=Ae2x+Be−2x−15e−ix



y=Ae2x+Be−2x−15eixy=Ae2x+Be−2x−15eix

***1 point***

The solution of (x2D2+xD+1)y=x(x2D2+xD+1)y=x is

 y = A cos x + B sin x + x

 y = A cos z + B sin z + z



y = A cos(log x) + B sin (log x) + x2x2



y = A cos (log x) + B sin (log x) + z2z2

***1 point***

The solution of (x2D2+4xD+2)y=0(x2D2+4xD+2)y=0is



 y=Ax+Bx2y=Ax+Bx2



y=Ax+Bx3y=Ax+Bx3



y=Ax+Bx2y=Ax+Bx2



y=Ax+Bx2y=Ax+Bx2

***1 point***

The roots of the auxiliary equation corresponding to (x2D2+5xD−5)y=0(x2D2+5xD−5)y=0 are

 1 and 5

 1 and -5

 -1 and -5

 -1 and 5

***1 point***

The Wronskian of  cos 3x and sin 3x is

 9

 6

 3

 -3

***1 point***

The Wronskian of 1 and exex is



exex

 1

 0



e−xe−x

***1 point***

The particular integral of (x2D2+xD+9)y=x(x2D2+xD+9)y=x  is



110110



x10x10



x8x8



1818



x8x8

***1 point***

The particular integral of (x2D2+5xD−5)y=2(x2D2+5xD−5)y=2 is



5252



−52−52



−25−25



x2x2

***1 point***

The Wronskian of exex  and  e−xe−x is



e0e0



ee

 -2

 2

Week 10

∫sin2xdx∫sin⁡2xdx=\_\_\_\_\_\_\_\_\_\_\_\_\_+C



−cos2x2−cos2x2



cos2x2cos2x2



cos2xcos2x



2cos2x2cos2x

***1 point***

∫e−3xcos4xdx∫e−3xcos4xdx = \_\_\_\_\_\_\_\_\_\_\_\_\_\_



cos2x+Ccos2x+C



e−3x25(−3cos4x+4sin4x)+Ce−3x25(−3cos4x+4sin4x)+C



cos4x+4sin4x25+Ccos4x+4sin4x25+C

 sin 4x +C

***1 point***

∫(secx+tanx)dx∫(secx+tanx)dx=\_\_\_\_\_\_\_\_\_

 log sec x + log tanx + C

 log(sec x+ tan x) + C

 log (sec x + tan x) + log (sec x) + C

 log(sec x + tan x) + log (tan x) + C

***1 point***

∫cosec2xcotxdx∫cosec2xcotxdx =\_\_\_\_\_\_\_\_\_

 log (cot x) + C

 log (tan x) + C

 log (sinx) + C

 log (cosec x) + C

***1 point***

∫f(x)dx∫f(x)dx=\_\_\_\_\_\_\_\_\_\_, where f(x) = 2x2x



2xlog2+C2xlog2+C

 log x + C

 x + 2 +C

 2x + C

***1 point***

∫x+4(x−1)(x−2)dx∫x+4(x−1)(x−2)dx =\_\_\_\_\_\_\_\_\_

 log(x-1) - log(x-2) +C

 -5 log(x-1) + 6 log(x-2) + C

 5 log(x-1) + 6 log(x-2) + C

 6 log(x-1) - 5 log(x-2) +C

***1 point***

∫1−1[x11+x7+x3] dx∫−11[x11+x7+x3] dx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 0

 1

 -1

 3

***1 point***

∫π0cosxdx∫0πcosxdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_+C

 1

 -1

 can not be evaluated

 0

***1 point***

∫1−1dxx2+1∫−11dxx2+1   =  \_\_\_\_\_\_\_\_\_\_\_\_

 0

 -1



π2π2



−π2−π2

***1 point***

∫ sin2xcos3xdx∫ sin2xcos3xdx=\_\_\_\_\_\_\_\_\_\_+C



cos2x2+sin3x3cos2x2+sin3x3



cos2x3+sin3x2cos2x3+sin3x2



cos2x2−cos3x3cos2x2−cos3x3



−cos5x10+cosx2−cos5x10+cosx2

***1 point***

∫sin2xsin3xdx∫sin⁡2xsin3xdx =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_+C



cos2x2−cos3x3cos2x2−cos3x3



cos2x4−cos3x6cos2x4−cos3x6



sinx2−sin3x3sinx2−sin3x3



sinx2−sin5x10sinx2−sin5x10

***1 point***

∫3x2+4x+2x3+2x2+2xdx∫3x2+4x+2x3+2x2+2xdx =\_\_\_\_\_\_\_\_\_\_\_\_\_\_



x3+2x2+2x+Cx3+2x2+2x+C



log(x3+2x2+2x)+Clog(x3+2x2+2x)+C



3x2+2x+2+C3x2+2x+2+C



x3+2x2+2x3x2+4x+2+Cx3+2x2+2x3x2+4x+2+C

***1 point***

∫secx+tanxsecxdx∫secx+tanxsecxdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 sec x +C

 x - cos x +C

 x + cos x +C

 x + sin x +C

***1 point***

∫dxxlogx∫dxxlogx=\_\_\_\_\_\_\_\_\_\_\_\_\_

 log x + C

 x + C

 log (log(x)) + C

 C

***1 point***

∫cosh4xdx∫cosh⁡4xdx



sinh4x4+Csinh4x4+C

  sinh 4x + C

 cosh 4x +C



cosh4x4+Ccosh4x4+C

week 11

∫e−xcoshxdx∫e−xcoshxdx =------------



x2−e−2x4+Cx2−e−2x4+C



x4−e−x4+Cx4−e−x4+C



x4−e−x2+Cx4−e−x2+C



x2+e−2x2+Cx2+e−2x2+C

***1 point***

∫logxdx∫log⁡xdx= \_\_\_\_\_\_\_\_\_\_\_\_\_+C

 x log x

 xlog x - x

 x logx + x

 logx - x

***1 point***

∫xexdx∫xexdx=\_\_\_\_\_\_\_\_\_\_\_\_+C



xx



exex



ex(x−1)ex(x−1)



ex+1ex+1

***1 point***

∫10x3(1−x)dx∫01x3(1−x)dx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 1

 4



120120

 0

***1 point***

∫π20cos8xdx∫0π2cos8xdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



3525635256



35π25635π256



2563525635



256π35256π35

***1 point***

∫π20sin5xcosxdx∫0π2sin5xcos⁡xdx

 6

 0

 1/6

 6

***1 point***

∫π20sin4xcos2xdx∫0π2sin4xcos2⁡xdx=\_\_\_\_\_\_\_\_\_\_\_\_

 0

 32



π32π32



32π32π

***1 point***

∫π20cos3xsin2xdx∫0π2cos3xsin2⁡xdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



215215

 2



152152

 15

***1 point***

∫π2−π2sin9xdx∫−π2π2sin9xdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 1

 0

 11

 -1

***1 point***

∫π2−π2cos9xdx∫−π2π2cos9xdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



256315256315



315256315256



265315265315



256351256351

***1 point***

∫π20sin3xcos5xdx∫0π2sin3xcos5⁡xdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 1/24

 1

 24

 -1/24

***1 point***

∫∞0e−xcos2xdx∫0∞e−xcos⁡2xdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 0

 1

 1/5

 5

***1 point***

∫∞0e−2xsinxdx∫0∞e−2xsinxdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 1/5

 1

 5

 0

***1 point***

∫1−1x2exdx∫−11x2exdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



e−5ee−5e

 0

 5e

 e

***1 point***

    If  ∫a−af(x)dx∫−aaf(x)dx = 2∫a0f(x)dx2∫0af(x)dx , where a >0, then f(x) is

 an odd function

 an even function

 neither odd nor even

 not an even function

Week 12

∫10cdx∫01cdx=\_\_\_\_\_\_\_\_\_\_\_\_\_

 c

 0

 1

 2

***1 point***

If ∫a0(2x+5)dx=6,a>0∫0a(2x+5)dx=6,a>0 then a =

 -1

 1

 2

 3

***1 point***

∫x04x3+6x2−2xx4+2x3−x2+1dx∫0x4x3+6x2−2xx4+2x3−x2+1dx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



log(x4+2x3−5)log(x4+2x3−5)

 log 4



log(x4+2x3−x2+1)log(x4+2x3−x2+1)

 log(6x)

***1 point***

∫10(x2+x+1)exdx∫01(x2+x+1)exdx = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 e-2

 2e-2

 3e-1

 2

***1 point***

∫π40tan5xdx∫0π4tan5xdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



−14−14

 1/4



−14+log2–√−14+log2



14log2–√14log2

***1 point***

∫π40sec6xdx∫0π4sec6xdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



15281528



215215



815815



28152815

***1 point***

∫π2π4cosec3xsinxdx∫π4π2cosec3xsin⁡xdx=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 0

 1

 -1

 2

***1 point***

∫π40sec6xtanxdx∫0π4sec6xtanxdx



4343

 3



1313

 4

***1 point***

∫40(x3−3x)dx∫04(x3−3x)dx

 20

 40

 0

 50

***1 point***

∫21logxdx∫12logxdx

 log4

 log4 - 1

 0

 1

***1 point***

∫∞0e−xdx∫0∞e−xdx

 0

 2

 1

 -1

***1 point***

∫∞0e−2xcos3xdx∫0∞e−2xcos3xdx

 0

 2



132132



213213

***1 point***

∫∞0e−2xsinxdx∫0∞e−2xsinxdx

 1

 5



1515

 0

***1 point***

∫∞0e−xcosh3xdx∫0∞e−xcosh3xdx

 1



−18−18



1818

 8

***1 point***

∫∞0e−2xsinh3xdx∫0∞e−2xsinh3xdx



−35−35



3535

 3

 5

Week 13

The law y=ax2+bxy=ax2+bx converted to linear form as



Y=ax+bY=ax+b where Y=x/yY=x/y



Y=ax+bY=ax+b where Y=logy;X=logxY=logy;X=logx



Y=ax+bY=ax+b where Y=y/xY=y/x



Y=ax+bY=ax+b where Y=y2/xY=y2/x

Yes, the answer is correct.  
Score: 1

Accepted Answers:

Y=ax+bY=ax+b*where*Y=y/xY=y/x

***1 point***

The principle of least squares state that

  The sum of square of all points from curve is minimum

 The sum of square of all points from curve is maximum

 The sum of square root of all points from curve is minimum

 The sum of square root of all points from curve is maximum

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*The sum of square of all points from curve is minimum*

***1 point***

Given .

|  |  |  |  |
| --- | --- | --- | --- |
| x | 0 | 1 | 2 |
| y | 0 | 1.1 | 2.1 |

then the straight line of best fit y=a+bx then a = --- and b = ---

 a=1.0167; b=0.05

 a=0.0167; b=1.05

 a=0.0167; b=0.05

 a=1.0167; b=1.05

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*a=0.0167; b=1.05*

***1 point***

 Arithmetic mean of the coefficient of regressions --- than the coefficient of correlation

 Greater

 Less

 Equal

 None of the above

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*Greater*

***1 point***

If one of the regression coefficient is greater than unity, then other must be

 Equal to unity

 Greater than unity

 less than unity

 Greater than or equals unity

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*less than unity*

***1 point***

The correlation between volume and pressure of the perfect gas is

 Positive

 Negative

 0

 None of these

No, the answer is incorrect.  
Score: 0

Accepted Answers:

*Negative*

***1 point***

Which method gives a unique set of values to the constants in the equation of the fitting curves?

 Horner's method

  Method of least squares

 Interpolation

 Newton's method

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*Method of least squares*

***1 point***

The line obtained by the method of least square is known as the line of -----

 straight line

 Interpolation

  best fit

 polynomial equation

No, the answer is incorrect.  
Score: 0

Accepted Answers:

*best fit*

***1 point***

Interpolation is done by

 Curve fitting

 Regression analysis

 Correlation analysis

 Both Curve fitting and Regression analysis

No, the answer is incorrect.  
Score: 0

Accepted Answers:

*Curve fitting*

***1 point***

The Normal equation of the curve xy=b+axxy=b+axare -----



∑xy=a∑x2+b∑x3∑x2y=a∑x3+b∑x4∑xy=a∑x2+b∑x3∑x2y=a∑x3+b∑x4



∑x=a∑x2+b∑x3∑xy=a∑x3+b∑x4∑x=a∑x2+b∑x3∑xy=a∑x3+b∑x4



∑y=b∑X+na∑Xy=b∑X2+a∑X∑y=b∑X+na∑Xy=b∑X2+a∑X

 None of the above

No, the answer is incorrect.  
Score: 0

Accepted Answers:

∑y=b∑X+na∑Xy=b∑X2+a∑X∑y=b∑X+na∑Xy=b∑X2+a∑X

***1 point***

What is the value of  ∑x2∑x2 for the data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *x* | -2 | -1 | 0 | 1 | 2 |
| *y* | 1 | 2 | 3 | 3 | 4 |

 -2

 10

 4

 0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*10*

***1 point***

Fit the straight line to the following data.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| x | 1 | 2 | 3 | 4 | 5 |
| y | 1 | 2 | 3 | 4 | 5 |

 y=x

 y=x+1

 y=x+2

 y=x-1

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*y=x*

***1 point***

Fit a second degree parabola to the following data.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Y | 2 | 6 | 7 | 8 | 10 | 11 | 11 | 10 | 9 |



y=−0.2673x2+3.5232x−0.9286y=−0.2673x2+3.5232x−0.9286



y=0.2673x2+3.5232x−0.9286y=0.2673x2+3.5232x−0.9286



y=0.2673x2+3.5232x+0.9286y=0.2673x2+3.5232x+0.9286



y=−0.2673x2+3.5232x+0.9286y=−0.2673x2+3.5232x+0.9286

Yes, the answer is correct.  
Score: 1

Accepted Answers:

y=−0.2673x2+3.5232x−0.9286y=−0.2673x2+3.5232x−0.9286

***1 point***

If the equation y=aebxy=aebx can be written in linear form *Y=A+BX*, what are Y,X,A,B?



Y=logy,A=loga,B=b,X=xY=logy,A=loga,B=b,X=x



Y=y,A=a,B=b,X=xY=y,A=a,B=b,X=x



Y=y,A=a,B=logb,X=logxY=y,A=a,B=logb,X=logx



Y=logy,A=a,B=logb,X=xY=logy,A=a,B=logb,X=x

Yes, the answer is correct.  
Score: 1

Accepted Answers:

Y=logy,A=loga,B=b,X=xY=logy,A=loga,B=b,X=x

***1 point***

The parameter E which we use for least square method is called as -----

 Sum of residues

 Residues

 Error

 Sum of errors

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*Sum of residues*

Week 14

The correlation between income and tax is

 Positive

 Negative

 0

 None of these

No, the answer is incorrect.  
Score: 0

Accepted Answers:

*Positive*

***1 point***

The normal equation of the curvey=ax+bxy=ax+bx are-----



∑xy=a∑x2+b∑x3,∑y=a∑x+b∑x2∑xy=a∑x2+b∑x3,∑y=a∑x+b∑x2



∑xy=a∑x2+nb,∑yx=na+b∑1x2∑xy=a∑x2+nb,∑yx=na+b∑1x2



∑y=a∑x3+b∑x2,∑y=a∑x2+b∑x3,∑y=a∑x3+b∑x2,∑y=a∑x2+b∑x3,

 None of the above

Yes, the answer is correct.  
Score: 1

Accepted Answers:

∑xy=a∑x2+nb,∑yx=na+b∑1x2∑xy=a∑x2+nb,∑yx=na+b∑1x2

***1 point***

Find the most plausible values of x,y and z from the following equations:  
  
x-y+2z=3,3x+2y-5z=5,4x+y+4z=21,-x+3y+3z=14

 x=2.47,y=3.55,z=1.92

 x=2.47,y=4.54,z=2.55

 x=0,y=0,z=0

 x=0.5,y=0.6,z=0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*x=2.47,y=3.55,z=1.92*

***1 point***

If one variable increases as the other increases, then they are

 negatively correlated

 positively correlated

 not correlated

 inversely correlated

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*positively correlated*

***1 point***

]The range of the correlation coefficient is --

 (-1,1)

 (0,1)

 (-1,0)

 (1,2)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*(-1,1)*

***1 point***

If r=1, the regression coefficient are ----

 1 and 1

 -1 and 1

 1 and 0

 0 and 0

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*1 and 1*

***1 point***

The equations of regression lines are y=0.5x+a and x=0.4y+b then the correlation coefficient is

 0.5

 0.63



1.2−−−√1.2



0.2−−−√0.2

Yes, the answer is correct.  
Score: 1

Accepted Answers:

0.2−−−√0.2

***1 point***

For the following data what is the value of ∑x∑x

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| X | *71* | *68* | *73* | *69* | *67* | *65* | *66* | *67* |
| *Y* | *69* | *72* | *70* | *70* | *68* | *67* | *68* | *64* |

 775

 546

 943

 645

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*546*

***1 point***

The first moment of the distribution about the origin is ----

 mean

 median

 standard deviation

 variance

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*mean*

***1 point***

The kth moment of the distribution about the origin is ---

 K



K(Xk)K(Xk)



E(Xk)E(Xk)

 k(0)

Yes, the answer is correct.  
Score: 1

Accepted Answers:

E(Xk)E(Xk)

***1 point***

The first moment about the mean is

 0

 1

 mean

 median

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*0*

***1 point***

The second moment about the mean is

 variance

 square root of standard deviation

 standard deviation

 median

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*variance*

***1 point***

---- means to form an equation of the curve from the given data

 least square

 residual

 curve fitting

 None of these

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*curve fitting*

***1 point***

The correlation between supply and demand is

 positive

 negative

 zero

 none of the above

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*negative*

***1 point***

The number of normal equation required for fitting a curve defined polynomial of even degree is \_\_\_\_

 2n

 2n+1

 2n-2

 2n+2

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*2n+1*

Week 15

Error is equal to

 Distance between the data points

 Square of the distance between the data points

 Half the distance between the data points

 None of the mentioned

No, the answer is incorrect.  
Score: 0

Accepted Answers:

*None of the mentioned*

***1 point***

 Which produces smoother interpolants?

 Polynomial interpolation

 Spline interpolation

 Polynomial and Spline interpolation

 linear interpolation

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*Polynomial and Spline interpolation*

***1 point***

 Normal equations of the curve y=ax+bx2y=ax+bx2 are -----



∑xy=a∑x2+b∑x3∑x2y=a∑x3+b∑x4∑xy=a∑x2+b∑x3∑x2y=a∑x3+b∑x4



∑x=n∑x2+cm∑x2y=a∑x3+b∑x4∑x=n∑x2+cm∑x2y=a∑x3+b∑x4



∑y=m∑x+c∑xy=a∑x2+b∑x2∑y=m∑x+c∑xy=a∑x2+b∑x2

 None of these

Yes, the answer is correct.  
Score: 1

Accepted Answers:

∑xy=a∑x2+b∑x3∑x2y=a∑x3+b∑x4∑xy=a∑x2+b∑x3∑x2y=a∑x3+b∑x4

***1 point***

The normal equations for a straight line y=ax+by=ax+b are:



∑y=a∑x+nb,∑xy=a∑x2+b∑x∑y=a∑x+nb,∑xy=a∑x2+b∑x



∑xy=a∑x+nb,∑y=a∑x2+b∑x∑xy=a∑x+nb,∑y=a∑x2+b∑x



∑y=a∑x+nb,∑xy=a∑x2+b∑x2∑y=a∑x+nb,∑xy=a∑x2+b∑x2



∑y=a∑x+nb,∑x2y=a∑x2+b∑x∑y=a∑x+nb,∑x2y=a∑x2+b∑x

Yes, the answer is correct.  
Score: 1

Accepted Answers:

∑y=a∑x+nb,∑xy=a∑x2+b∑x∑y=a∑x+nb,∑xy=a∑x2+b∑x

***1 point***

If the equation y=axby=axb can be written in linear form *Y=A+BX*, what are Y,X,A,B



Y=logy,A=loga,B=b,X=logxY=logy,A=loga,B=b,X=logx



Y=y,A=a,B=b,X=xY=y,A=a,B=b,X=x



Y=y,A=a,B=logb,X=logxY=y,A=a,B=logb,X=logx



Y=logy,A=a,B=logb,X=xY=logy,A=a,B=logb,X=x

Yes, the answer is correct.  
Score: 1

Accepted Answers:

Y=logy,A=loga,B=b,X=logxY=logy,A=loga,B=b,X=logx

***1 point***

 The normal equation for fitting a straight line y=a+bx+cx2y=a+bx+cx2 is ∑xiyi∑xiyi=-----



a∑xi+b∑x2i+c∑x3ia∑xi+b∑xi2+c∑xi3



a∑xi+b∑x3i+c∑x4ia∑xi+b∑xi3+c∑xi4



a∑x2i+b∑xi+c∑x3ia∑xi2+b∑xi+c∑xi3

 None of the above

Yes, the answer is correct.  
Score: 1

Accepted Answers:

a∑xi+b∑x2i+c∑x3ia∑xi+b∑xi2+c∑xi3

***1 point***

The method of ---- is the most systematic procedure to fit a unique curve from given data

 least cube

  square

 least squares

 none of these

No, the answer is incorrect.  
Score: 0

Accepted Answers:

*least squares*

***1 point***

----- suggests a curve of best fit to the given data

 least square

  fit a straight line

 curve fitting

 none of these

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*least square*

***1 point***

The number of normal equation required for fitting a curve defined by $n^{th}$ degree polynomial is

 n



n2n2

 n-1

 n+1

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*n+1*

***1 point***

Curve fitting means ----------- relationship between two variables by algebraic equation.

 an exact

 an approximate

 no

 none of these

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*an exact*

***1 point***

A polynomail of the form y=a+bx+cx2+dx3y=a+bx+cx2+dx3

 linear

 quadratic

 cubic

 None of the above

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*cubic*

***1 point***

Curve fitting is useful in the study of

 correlation

 correlation and regression

 regression

 none of them

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*correlation and regression*

***1 point***

What is the value of ∑x∑x for the data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *x* | -2 | -1 | 0 | 1 | 2 |
| *y* | 1 | 2 | 3 | 3 | 4 |

 0

 1

 8

 4

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*0*

***1 point***

Fit a straight line by the method of least squares to the following data

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | 0 | 2 | 5 | 7 |
| y | -1 | 5 | 12 | 20 |

 y=-1.1381+2.8966x

 y=-45.2-3.245x

 y=1.1381-2.8966x

 None of these

No, the answer is incorrect.  
Score: 0

Accepted Answers:

*y=-1.1381+2.8966x*

***1 point***

In curve fitting, the relationship between variables represent .........

 polynomial, exponential or logarithmic functions

 polynomial functions

 exponential functions

 logarithmic functions

Yes, the answer is correct.  
Score: 1

Accepted Answers:

*polynomial, exponential or logarithmic functions*