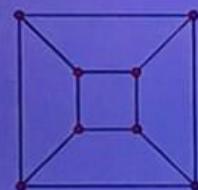
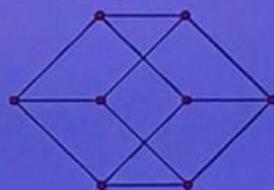


Question 1
1 answered
1 out of
1 question

Consider the following 2 graphs.



G



H

Number of Components

H

Number of Vertices

Number of Edges

Degree Sequence

Are they isomorphic?

G and H are



- Isomorphic
 Not Isomorphic

Next page

C_{11} 4 ▾

C_{12} -8 ▾

C_{13} 24 ▾

C_{21} 41 ▾

C_{22} 14 ▾

C_{23} 10 ▾



C_{31} -23 ▾

C_{32} 14 ▾

C_{33} -10 ▾



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tion 3

et answered
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og question

$$f(x) = \frac{x^2 + 7}{3x - 1}.$$

Find $f'(-1)$.

Hint : Differentiate the function and Substitute -1.

Answer: -3.59

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tion 3
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ing question

$$f(x) = \frac{x^2 + 7}{3x - 1}.$$

Find $f'(-1)$.

Hint: Differentiate the function and Substitute -1.

Answer:



Marked out of
10
Question

$$A = \begin{bmatrix} x & 5 & 7 \\ 2 & 4 & 1 \\ -2 & 8 & 3 \end{bmatrix}$$

C_{11}

C_{12}

C_{13}

C_{21}

C_{22}

C_{23}

C_{31}

C_{32}

C_{33}

$h = : -13$ $h1 = : 13$ $h2 = : 7$ $h3 = : 0$
 $i = : 4$ $i1 = : 4$ $i2 = : 1$ $i3 = : -5$
 $p = : 0$ $p1 = : 0$ $p2 = : 0$ $p3 = : 0$
 $q = : -4$ $q1 = : -4$ $q2 = : -4$ $q3 = : -4$
 $r = : -11$ $r1 = : -11$ $r2 = : -11$ $r3 = : -15$

2. To find the solution, of the above linear system, obtain the three equations from the echelon form of the augmented matrix.
From row 3,

$$0 *X + 0 *Y + -5 *Z = -15$$

From row 2,

$$0 *X + 7 *Y + -6 *Z = -4$$

From row 1,

$$1 *X + -2 *Y + 1 *Z = 0$$

3. Hence find the solution of the above linear system of equations.

$$X = : 1$$

$$Y = : 2$$

$$Z = : 3$$

4

Not answered

Marked out of

Flag question

Consider the following linear system of equations.

$$x - 2y + z = 0$$

$$2x + 3y - 4z = -4$$

$$3x - 13y + 4z = -11$$

1. Write down the augmented matrix for the above system of linear equations and reduce that to echelon form.

$$\begin{bmatrix} a & b & c & p \\ d & e & f & q \\ g & h & i & r \end{bmatrix} \rightarrow \begin{bmatrix} a_1 & b_1 & c_1 & p_1 \\ d_1 & e_1 & f_1 & q_1 \\ g_1 & h_1 & i_1 & r_1 \end{bmatrix} \rightarrow \begin{bmatrix} a_2 & b_2 & c_2 & p_2 \\ d_2 & e_2 & f_2 & q_2 \\ g_2 & h_2 & i_2 & r_2 \end{bmatrix} \rightarrow \begin{bmatrix} a_3 & b_3 & c_3 & p_3 \\ d_3 & e_3 & f_3 & q_3 \\ g_3 & h_3 & i_3 & r_3 \end{bmatrix}$$

$$r'_2 = r_2 - 2r_1$$

$$r'_3 = r_3 - 3r_1$$

$$r'_3 = r_3 + r_2$$

$$a = : 1 \quad a_1 = : 1 \quad a_2 = : 1 \quad a_3 = : 1$$

$$b = : -2 \quad b_1 = : -2 \quad b_2 = : -2 \quad b_3 = : -2$$

$$c = : 1 \quad c_1 = : 1 \quad c_2 = : 1 \quad c_3 = : 1$$

$$d = : 2 \quad d_1 = : 0 \quad d_2 = : 0 \quad d_3 = : 0$$

$$e = : 3 \quad e_1 = : 7 \quad e_2 = : 7 \quad e_3 = : 7$$

$$f = : -4 \quad f_1 = : -6 \quad f_2 = : -6 \quad f_3 = : -6$$

$$g = : 3 \quad g_1 = : 3 \quad g_2 = : 0 \quad g_3 = : 0$$

$$h = : -13 \quad h_1 = : -13 \quad h_2 = : -7 \quad h_3 = : 0$$

$$i = : 4 \quad i_1 = : 4 \quad i_2 = : 1 \quad i_3 = : -5$$

$$p = : 0 \quad p_1 = : 0 \quad p_2 = : 0 \quad p_3 = : 0$$

$$q = : -4 \quad q_1 = : -4 \quad q_2 = : -4 \quad q_3 = : -4$$

$$r = : -11 \quad r_1 = : -11 \quad r_2 = : -11 \quad r_3 = : -15$$



2. To find the solution of the above linear system, obtain the three equations from the echelon form of the augmented matrix.

From row 3



Consider the following linear system of equations.

$$x - 2y + 3z = -2$$

$$-2x + y - 2z = 2$$

$$3x - 3y + 7z = -2$$

(If your answer is not an integer, then write it as a quotient (eg: 2/5))

(Simplify your answer as much as possible. eg: Do not keep 2/6, write 1/3 (No common factors should be there in numerator and denominator))

a) Write down the above three equations in matrix form $Ax = b$.

$$A = \begin{bmatrix} 1 & -2 & 3 \\ -2 & 1 & -2 \\ 3 & -3 & 7 \end{bmatrix}$$

$$b = \begin{bmatrix} -2 \\ 2 \\ -2 \end{bmatrix}$$

b) Consider the following. Find the values of the resulting matrix, when the following elementary row operations are applied in the given order.

$$\begin{bmatrix} 1 & -2 & 3 & 1 & 0 & 0 \\ -2 & 1 & -2 & 0 & 1 & 0 \\ 3 & -3 & 7 & 0 & 0 & 1 \end{bmatrix} \rightarrow$$

$$\begin{bmatrix} a & b & c & j & k & l \\ d & e & f & m & n & o \\ g & h & i & p & q & r \end{bmatrix}$$

$$1. r'_2 = r_2 + 2r_1$$

$$2. r'_3 = r_3 - 3r_1$$

$$3. r'_3 = r_3 + r_2$$

$$4. r'_3 = r_3 \times \frac{1}{2}$$



Question 5

Not yet answered

Scored out of

Log question

Consider the following function.

$$f(x) = x^5 + 2x^3 - 5$$

1. Find $f'(-2)$:

2. Find the definite integral of $f(x)$ from -2 to 2 :

d) Use the inverse matrix to find the solution of the above linear system of equations.

$$\begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix} \begin{bmatrix} p \\ q \\ r \end{bmatrix}$$

$$a = \boxed{1} \quad b = \boxed{0} \quad c = \boxed{0}$$

$$d = \boxed{0} \quad e = \boxed{1} \quad f = \boxed{0}$$

$$g = \boxed{0} \quad h = \boxed{0} \quad i = \boxed{1}$$

$$p = \boxed{-1/2} \quad q = \boxed{1/2} \quad r = \boxed{1/2}$$

$$x = \boxed{-1/2}$$

$$y = \boxed{1/2}$$

$$z = \boxed{1/2}$$



tion 8

not answered
ed out of

eg question

Consider the function $f:R \rightarrow R$ $f(x) = x^2 - 1$

a) Is this a one-to-one function?

- Yes
 No

b) Is this an on to function?

- Yes
 No

b) Does the inverse exist?

- Yes
 No

b) What is the inverse function?

- $f^{-1}(x) = x^{1/2}$
 $f^{-1}(x) = 1/x^2$
 $f^{-1}(x) = x-1$
 Does not exist



c) Using the answer in (b), find the inverse of the coefficient matrix A.

$$A^{-1} = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

$$a = 1 \quad b = 0 \quad c = 0$$

$$d = 0 \quad e = 1 \quad f = 0$$

$$g = 0 \quad h = 0 \quad i = 1$$

A	B	C	$\overline{A} \overline{B} C$	$\overline{A} B C$	$\overline{A} \overline{B} \overline{C}$	D
0	0	0	0	0	0	0
0	0	1	0	0	1	1
0	1	0	1	0	0	1
0	1	1	0	1	0	1
1	0	0	0	0	0	0
1	0	1	0	0	0	0
1	1	0	0	0	0	0
1	1	1	0	0	0	0

b) Simplify the above expression (D) using the following boolean identities. In front of each step write the boolean identity according to following numbers).

Consider the following Boolean identities.

1. Double Complement Law
2. Idempotent Law
3. Identity Law
4. Universal Bound Law
5. Commutative Law
6. Associative Law



Obtain the truth table for the following expression.

$$D = \overline{A} \overline{B} \overline{C} + \overline{A} BC + \overline{A} \overline{B} C$$

A	B	C	$\overline{A} \overline{B} \overline{C}$	$\overline{A} BC$	$\overline{A} \overline{B} C$	D
0	0	0	0	0	0	0
0	0	1	0	0	1	1
0	1	0	1	0	0	1
0	1	1	0	1	0	1
1	0	0	0	0	0	0
1	0	1	0	0	0	0
1	1	0	0	0	0	0
1	1	1	0	0	0	0



- b) Simplify the above expression (D) using the following boolean identities. In front of each step write the identity according to following numbers.



Question 11

Not answered
0 out of
1 mark

Avg question

Consider the following linear system of equations.

$$x + y - z = -3$$

$$2x + 3y + z = 1$$

$$x - 4y - z = 7$$

a) Represent the above system of linear equations in matrix form $Ax = b$.

$$A = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}, x = \begin{bmatrix} x \\ y \\ z \end{bmatrix}, b = \begin{bmatrix} p \\ q \\ r \end{bmatrix}$$

$$a = : 1 : \quad b = : 1 : \quad c = : -1 :$$

$$d = : 2 : \quad e = : 3 : \quad f = : 1 :$$

$$g = : 1 : \quad h = : -4 : \quad i = : -1 :$$

$$p = : -3 :$$

$$q = : 1 :$$

$$r = : 7 :$$

b) Find the determinant of A. :

c) Find x using the cramer's rule.

$$x = \frac{|A_1|}{|A|} \quad A_1 = \begin{bmatrix} a & b & c \\ d & e & f \\ 1 & -4 & -1 \end{bmatrix}$$



Question 10

Not answered

Marked out of

Log question

$$\text{Let } A = \begin{bmatrix} -1 & 2 \\ 3 & 1 \end{bmatrix}.$$

$$\text{Find } B = A^2 - 3A + 2I$$

$$B = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

$$a = : 12$$

$$b = : -6$$

$$c = : -9$$

$$d = : 6$$

a = : b = : c = :
d = : e = : f = :
g = : h = : i = :
p = :
q = :
r = :

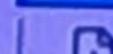
- b) Find the determinant of A. :
c) Find x using the cramer's rule.

$$x = \frac{|A_1|}{|A|}, A_1 = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

a = : b = : c = :
d = : e = : f = :
g = : h = : i = :
|A1| = :
x = :

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u) Find y using the cramer's rule.

$$y = \frac{|A_2|}{|A|}, A_2 = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

$$a = : 1 : \quad b = : -3 : \quad c = : -1 :$$

$$d = : 2 : \quad e = : 1 : \quad f = : 1 :$$

$$g = : 1 : \quad h = : 7 : \quad i = : -1 :$$

$$|A_2| = : -30 :$$

$$y = : -2 | I :$$

a = : b = : c = :
d = : e = : f = :
g = : h = : i = :
p = :
q = :
r = :

b) Find the determinant of A. : 15

c) Find x using the cramer's rule.

$$x = \frac{|A_1|}{|A|}, A_1 = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

a = : b = : c = :

d = : e = : f = :

g = : h = : i' = :

|A1| = :

x = :



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Nov 12, 2018

Attempted

Remaining

Logout

Quiz navigation

Final attempt

Time left 0:37:32

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22								

Let $A = \begin{bmatrix} 2 & 1 & 7 \\ 0 & -3 & 2 \\ 2 & 1 & 3 \end{bmatrix}$

and $B=3A$; $C=B+2A-5I$. Find matrix D such that $D=2A+B-C$.

Assume I is the identity matrix.

$$D = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

a =
b =
c =
d =
e =
f =
g =
h =
i =

Next page

d) Find z using the cramer's rule.

$$z = \frac{|A_3|}{|A|}, A_3 = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

$$a = 1, b = 1, c = 3$$

$$d = 2, e = 3, f = 1$$

$$g = 1, h = 4, i = 3$$

$$|A_3| = 45$$

$$y = 3$$





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tion 14

Not answered
0 out of
1

Flag question

Find the following definite integral.

(If your answer is not an integer, then write it as a quotient (eg: 2/5))

$$\int_{-2}^1 5z^2 - 7z + 3 dz = 21$$

Next page

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X

→ X

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Question 13

Correct
answered
Marked out of
1

Flag question

To buy a computer system, a customer can choose one of 4 monitors, one of 6 keyboards, one of 3 computers and one of 6 printers.

a) Determine the number of possible systems that a customer can choose from.

Answer = : 432

b) Another customer wants to buy a monitor, keyboard and computer only.

Find the possible ways of choosing monitor, keyboard and computer.

Answer = : 72

Next page



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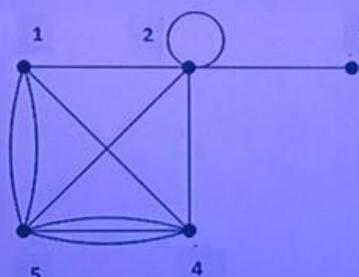
tion 16

not answered

ed out of

ing question

a) Determine whether the following graph has Euler path, Euler circuit, Hamilton path or Hamilton circuit.



Euler Path =

Yes

No

Euler Circuit =

Yes

No

Hamilton Path =

Yes

No

Hamilton Circuit =

Yes

No

Exwrite down the adjacency matrix for the above graph.

b) Consider the following. Find the values of the unknowns.

$$\begin{bmatrix} 1 & -2 & -1 & 1 & 0 & 0 \\ 3 & -2 & 3 & 0 & 1 & 0 \\ 2 & -3 & 2 & 0 & 0 & 1 \end{bmatrix} \rightarrow \begin{bmatrix} a & b & c & j & k & l \\ d & e & f & m & n & o \\ g & h & i & p & q & r \end{bmatrix}$$

$$1. r_2' = r_2 - 3r_1$$

$$2. r_3' = r_3 - 2r_1$$

$$3. r_3' = r_3 - \frac{1}{4}r_2$$

$$4. r_3' = r_3 \times \frac{2}{5}$$

$$5. r_2' = r_2 - 6r_3$$

$$6. r_2' = r_2 \times \frac{1}{4}$$

$$7. r_1' = r_1 + r_3$$

a =	b =	c =
d =	e =	f =
g =	h =	i =
	k =	l =
m =	n =	o =
q =	p =	r =

Let $A = \begin{bmatrix} 5 & -5 & 4 \\ 0 & 3 & 2 \\ 1 & 0 & 7 \end{bmatrix}$

and $B=3A$; $C=B+2A-5I$. Find matrix D such that $D=2A+B-C$.

Assume I is the identity matrix.

$$D = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

a = :

b = : I

c = :

d = :

e = :

f = :

g = :

h = :

i = :



4
Answered
out of
question

N Refers to all the positive integers. (Called as Natural Numbers)

$$f: N \rightarrow N \quad f(n) = (x - 2)(x + 3)$$

Is f a One to one function?

Choose... ▾

Is f an onto function?

Choose... ▾

Does f has an inverse function?

Choose... ▾

c) Degree sequence of a graph is 7, 6, 6, 4, 2, 2, 2, 1.

Does this graph exist?

Yes

No

Number of Edges of the above graph = :

Does it has an Euler path?

Yes

No

Does it has an Euler circuit?

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Question 2

Not yet answered

Marked out of
1.00

Flag question

Find the following definite integral.

$$\int_{-2}^{0} |4x - 5| dx$$

Answer:

N Refers to all the positive integers. (Called as Natural Numbers)

$$f: N \rightarrow N \quad f(n) = x^5 - 2x + 1$$



Is f a One to one function?

Choose... ▾

Is f an onto function?

Choose... ▾

Does f has an inverse function?

Choose... ▾



Question 1

Not yet answered

Marked out of
1.00

Flag question

Simplify the following boolean expression.

$$(A + \overline{B})(\overline{C} + B)(B + (\overline{B} + C)) + A + B + C$$

Select one:

- B
- A+B+C
- 1
- A(B+C)
- None of the above



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Question 2

Not yet answered
Marked out of
1.00
 Flag question

Consider the following linear system of equations.

$$x + 2y - z = 1$$

$$-x + 3y - z = -4$$

$$-2x + y + 2z = 3$$

1. Write down the augmented matrix for the above system of linear equations and reduce that to echelon form.

$$\begin{bmatrix} a & b & c & p \\ d & e & f & q \\ g & h & i & r \end{bmatrix} \rightarrow \begin{bmatrix} a_1 & b_1 & c_1 & p_1 \\ d_1 & e_1 & f_1 & q_1 \\ g_1 & h_1 & i_1 & r_1 \end{bmatrix} \rightarrow \begin{bmatrix} a_2 & b_2 & c_2 & p_2 \\ d_2 & e_2 & f_2 & q_2 \\ g_2 & h_2 & i_2 & r_2 \end{bmatrix} \rightarrow \begin{bmatrix} a_3 & b_3 & c_3 & p_3 \\ d_3 & e_3 & f_3 & q_3 \\ g_3 & h_3 & i_3 & r_3 \end{bmatrix}$$

$$r'_2 = r_2 + r_1$$

$$r'_3 = r_3 + 2r_1$$

$$r'_3 = r_3 - r_2$$

a = : a1 = : a2 = : a3 = :

b = : b1 = : b2 = : b3 = :

c = : c1 = : c2 = : c3 = :

d = : d1 = : d2 = : d3 = :

e = : e1 = : e2 = : e3 = :

f = : f1 = : f2 = : f3 = :

g = : g1 = : g2 = : g3 = :

h = : h1 = : h2 = : h3 = :

Question 5

Not yet answered

Marked out of

0

Flag question

Consider the function $f: \mathbb{R} \rightarrow \mathbb{R}$ $f(x) = x^2 - 1$

a) Is this a one-to-one function?

Yes

No

b) Is this an onto function?

Yes

No

b) Does the inverse exist?

Yes

No

b) What is the inverse function?

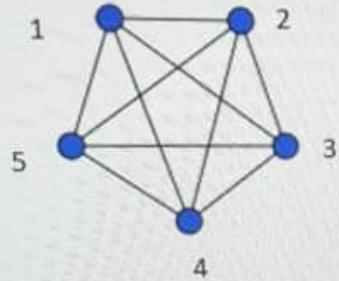
$f^{-1}(x) = x^{1/2}$

$f^{-1}(x) = 1/x^2$

$f^{-1}(x) = x-1$

Does not exist

a) Determine whether the following graph has Euler path, Euler circuit, Hamilton path or Hamilton circuit.



Euler Path =

- Yes
 No

Euler Circuit =

- Yes
 No

Hamilton Path =

- Yes
 No

Hamilton Circuit =

- Yes
 No

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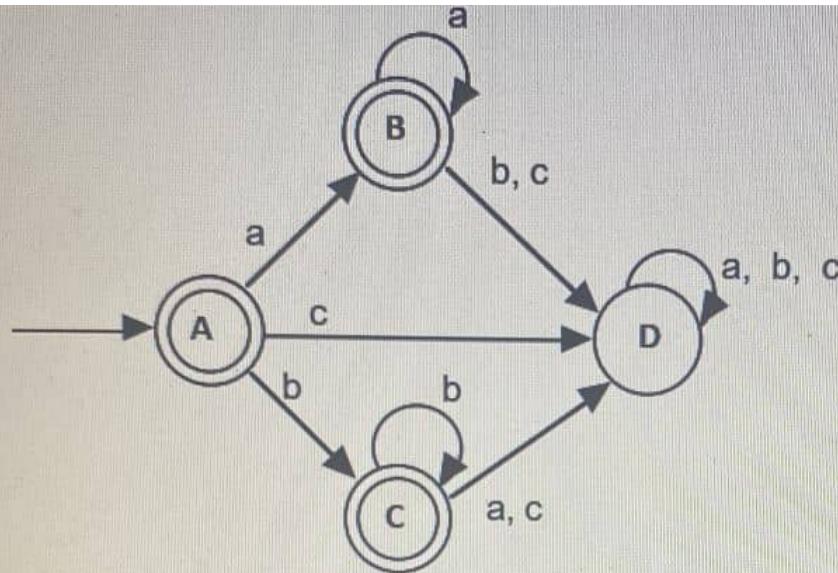
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Flag question

Finish after

Time left 1:

1	2
8	9
15	16
22	



What is the initial State?

To what state does A go if abcacbac input to A in sequence starting from the initial state?

Find $N(C, a)$

Find $N(D, b)$

A ▾

Choose... ▾

Choose...

D

B

A

C

Next page

b) Simplify the above expression (D) using the following boolean identities
the reason (Number of the boolean identity according to following number)

Consider the following Boolean identities.

1. Double Complement Law
2. Idempotent Law
3. Identity Law
4. Universal Bound Law
5. Commutative Law
6. Associative Law
7. Distributive Law
8. De Morgan's Law
9. Absorption Law
10. Inverse Law

$$(A + B)(A + C)(\bar{A} + \bar{B})$$

$$= (A + (BC))(\bar{A} + \bar{B})$$

$$= (A + (BC)).\bar{A} + (A + (BC)).\bar{B}$$

$$= (A\bar{A} + (BC)\bar{A}) + (A\bar{B} + (BC)\bar{B})$$

$$= (0 + (BC)\bar{A}) + (A\bar{B} + 0)$$

$$= (BC)\bar{A} + A\bar{B}$$



Consider the following function.

$$f(x) = x^3 - 2x^2 + 5$$

1. Find $f'(-3)$:

2. Find the definite integral of $f(x)$ from -3 to 3 :

Question 3

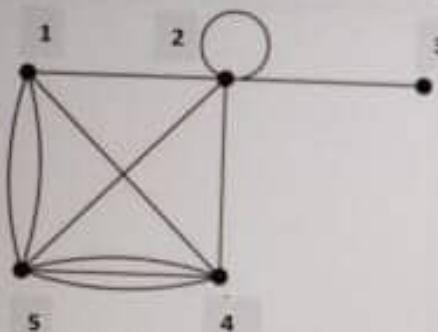
Not yet answered

Marked out of

1.00

 Flag question

a) Determine whether the following graph has Euler path, Euler circuit, Hamilton path or Hamilton circuit.

Euler Path = Yes NoEuler Circuit = Yes NoHamilton Path = Yes NoHamilton Circuit = Yes No

b) Write down the adjacency matrix for the above graph.

Question 1

Not yet answered

Marked out of
1.00

Flag question

Consider the following linear system of equations.

$$x + 2y - 2z = 2$$

$$2x + y - z = -2$$

$$3x + 2y - z = -1$$

1. Write down the augmented matrix for the above system of linear equations and reduce that to echelon form.

$$\begin{bmatrix} a & b & c & p \\ d & e & f & q \\ g & h & i & r \end{bmatrix} \rightarrow \begin{bmatrix} a_1 & b_1 & c_1 & p_1 \\ d_1 & e_1 & f_1 & q_1 \\ g_1 & h_1 & i_1 & r_1 \end{bmatrix} \rightarrow \begin{bmatrix} a_2 & b_2 & c_2 & p_2 \\ d_2 & e_2 & f_2 & q_2 \\ g_2 & h_2 & i_2 & r_2 \end{bmatrix} \rightarrow \begin{bmatrix} a_3 & b_3 & c_3 & p_3 \\ d_3 & e_3 & f_3 & q_3 \\ g_3 & h_3 & i_3 & r_3 \end{bmatrix}$$

$$r_2' = r_2 - 2r_1$$

$$r_3' = r_3 - 3r_1$$

$$r_3' = r_3 - \frac{4}{3}r_2$$

$$a = : \boxed{} \quad a_1 = : \boxed{} \quad a_2 = : \boxed{} \quad a_3 = : \boxed{}$$

$$b = : \boxed{} \quad b_1 = : \boxed{} \quad b_2 = : \boxed{} \quad b_3 = : \boxed{}$$

$$c = : \boxed{} \quad c_1 = : \boxed{} \quad c_2 = : \boxed{} \quad c_3 = : \boxed{}$$

$$d = : \boxed{} \quad d_1 = : \boxed{} \quad d_2 = : \boxed{} \quad d_3 = : \boxed{}$$

$$e = : \boxed{} \quad e_1 = : \boxed{} \quad e_2 = : \boxed{} \quad e_3 = : \boxed{}$$

$$f = : \boxed{} \quad f_1 = : \boxed{} \quad f_2 = : \boxed{} \quad f_3 = : \boxed{}$$

$$g = : \boxed{} \quad g_1 = : \boxed{} \quad g_2 = : \boxed{} \quad g_3 = : \boxed{}$$

$$h = : \boxed{} \quad h_1 = : \boxed{} \quad h_2 = : \boxed{} \quad h_3 = : \boxed{}$$

$$i = : \boxed{} \quad i_1 = : \boxed{} \quad i_2 = : \boxed{} \quad i_3 = : \boxed{}$$

$$p = : \boxed{} \quad p_1 = : \boxed{} \quad p_2 = : \boxed{} \quad p_3 = : \boxed{}$$

$$q = : \boxed{} \quad q_1 = : \boxed{} \quad q_2 = : \boxed{} \quad q_3 = : \boxed{}$$



in 4

answered
out of

question

Let $A = \begin{bmatrix} -1 & 4 \\ 3 & 1 \end{bmatrix}$

Find $B = A^2 - 3A + 2I$

$$B = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

a = :

b = :

c = :

d = :

**Question 2**

Not yet answered

Marked out of
1.00

Flag question

Convert 6425_{10} to following number systems.Equivalent Binary Number (x) = Equivalent Octal Number (y) = Equivalent Hexadecimal Number (z) =

Find:

(Write your answer for 2's complement with 13 digits)

2's Complement of x (x') = 8's Complement of y = 16's Complement of z =

c) Fill in the blanks.

i) $11110101 + 10010111 =$ (Write your answer with 9 digits)

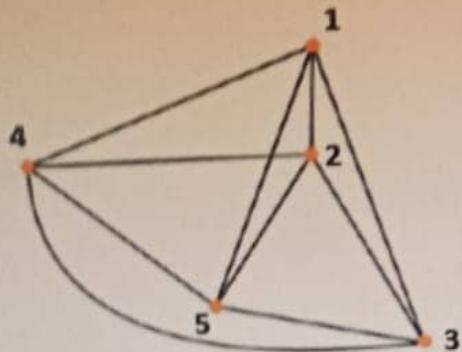
ii) $11110101 - 10010111 =$ (Write your answer with 7 digits)

iii) $11110101 \times 1000000 =$



5
Answered
out of
question

a) Determine whether the following graph has Euler path, Euler



Euler Path =

- Yes
- No

Euler Circuit =

- Yes
- No

Hamilton Path =

- Yes
- No

Hamilton Circuit =

- Yes
- No

HD • 1080 •

Esc "Z" F2 (p) F3 * F4 ⚙ F5 ☐/☐ F6 ☐/☐ F7 ☐/☐ F8
/ @ # \$ % ^ &
1 2 3 4 5 € 6 7



Consider the following function.

$$g: R \rightarrow R \quad g(x) = \frac{(8 - 5x)}{4}$$

Find $g^{-1}(2)$

Hint : Find the inverse of g and substitute 2.

Answer:



acer

metropolitan
Warranty void if Label
Removed / Broken



Consider the following function.

$$g: R \rightarrow R \quad g(x) = \frac{(12 - 3x)}{4}$$

Find $g^{-1}(-3)$

Hint : Find the inverse of g and substitute -3.

Answer:

Moodle

Question 1
Not yet answered
Marked out of 1.00
Flag question

Consider the following linear system of equations.

$$\begin{aligned}2x + y - z &= 6 \\3x - 2y - 3z &= 3 \\-x + y + 2z &= -3\end{aligned}$$

a) Represent the above system of linear equations in matrix form $Ax = b$.

$$A = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}, x = \begin{bmatrix} x \\ y \\ z \end{bmatrix}, b = \begin{bmatrix} p \\ q \\ r \end{bmatrix}$$

a = : b = : c = :
d = : e = : f = :
g = : h = : i = :
p = :
q = :
r = :

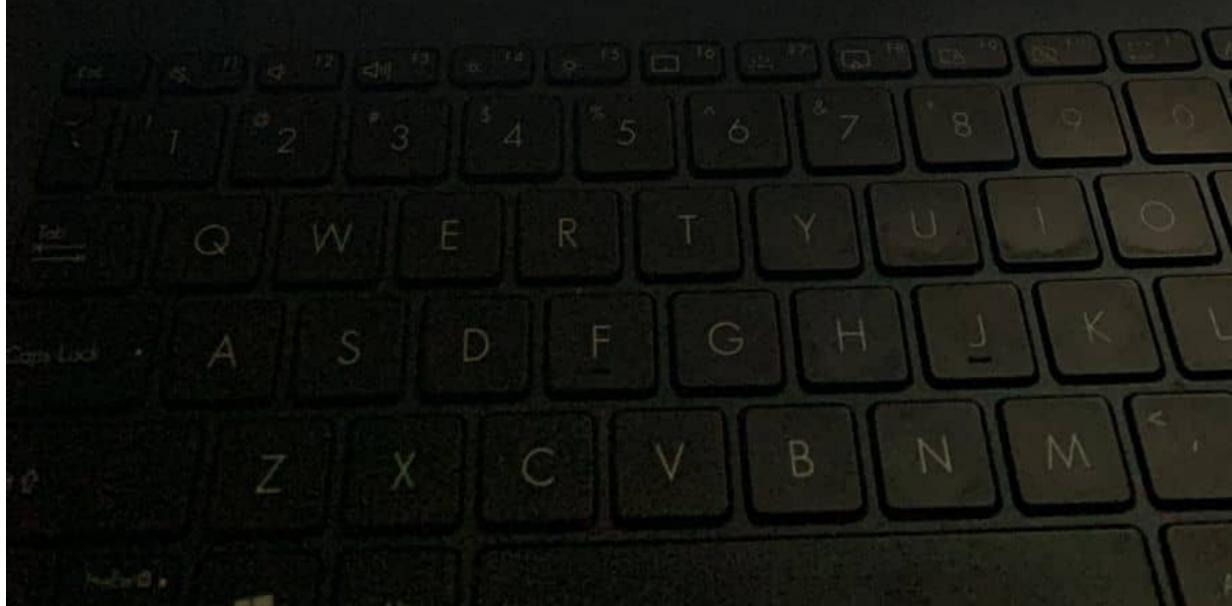
b) Find the determinant of A.:

c) Find x using the cramer's rule.

$$x = \frac{|A_1|}{|A|}, A_1 = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

a = : b = : c = :

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Question 1

Not yet answered

Marked out of
1.00 Flag question

Sum of the two digits of a two-digit number is 15. When the sum of two and twice the tens digit is divided by 2 gives the unit digit. Write down 2 equations to find the unit digit (Y) and tens digit (X).

(Hint: For 34, 3 is the tens digit and 4 is the unit digit)

$$\boxed{} * X + \boxed{} * Y = \boxed{}$$

$$\boxed{} * X + \boxed{} * Y = 1$$

a) Write the above 2 equations in matrix form $Ax = b$. (According to the given order).

$$Ax = b$$

$$A = \begin{bmatrix} p & q \\ r & s \end{bmatrix} \quad x = \begin{bmatrix} t \\ u \end{bmatrix} \quad b = \begin{bmatrix} c \\ d \end{bmatrix}$$

$$p = : \boxed{} \quad q = : \boxed{}$$

$$r = : \boxed{} \quad s = : \boxed{}$$

$$c = : \boxed{}$$

≡ Quiz

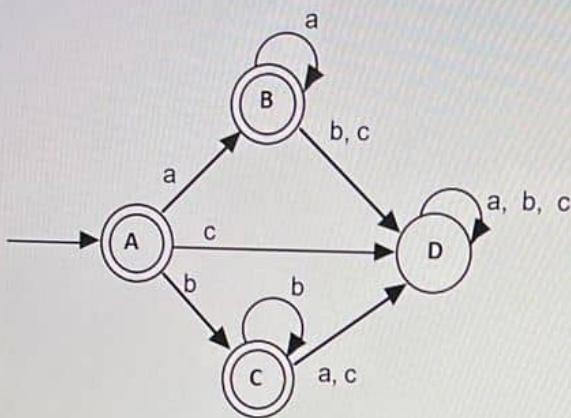
Finish attempt

Time left 1:5:

1	2
8	9
15	16
22	17

Question 7
Not yet answered
Marked out of
0
Flag question

Consider the following finite state Machine A.



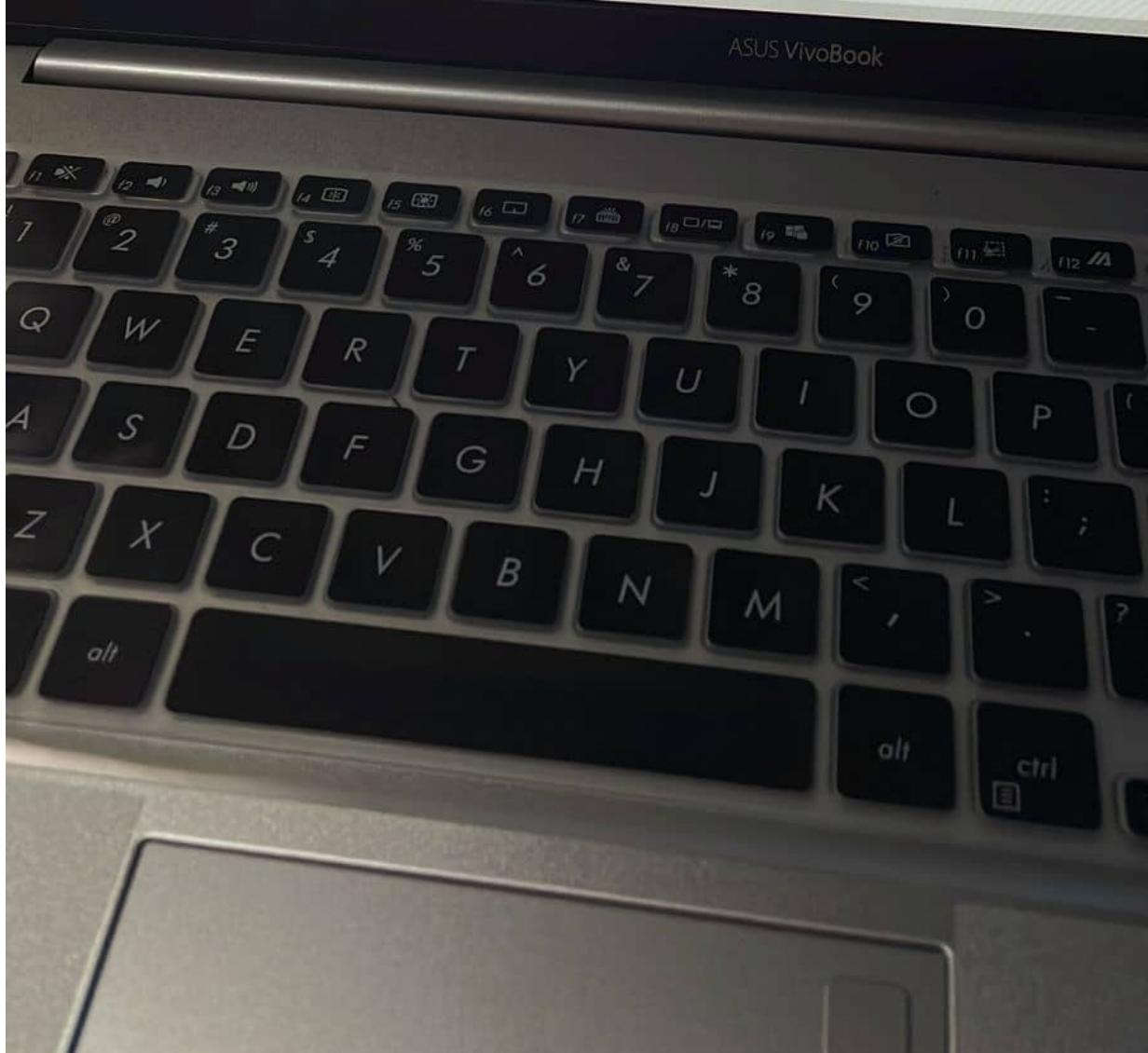
What is the initial State?

To what state does A go if abcacbac input to A in sequence starting from the initial state?
Find $N(C, a)$

Find $N(D, b)$

Choose...
Choose...
C
B
D
A
Choose... ▾

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Question 3

Not yet answered

Marked out of
0

Flag question

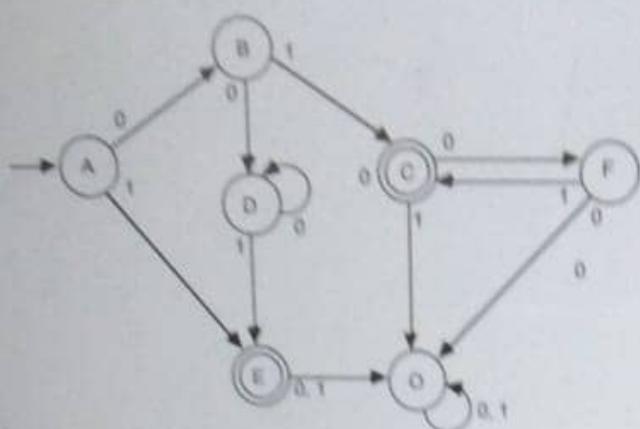
Find the following definite integral.

$$\int_{-2}^{0} |4x - 5| dx$$

Answer: 18

[]

Consider the following finite state Machine A.



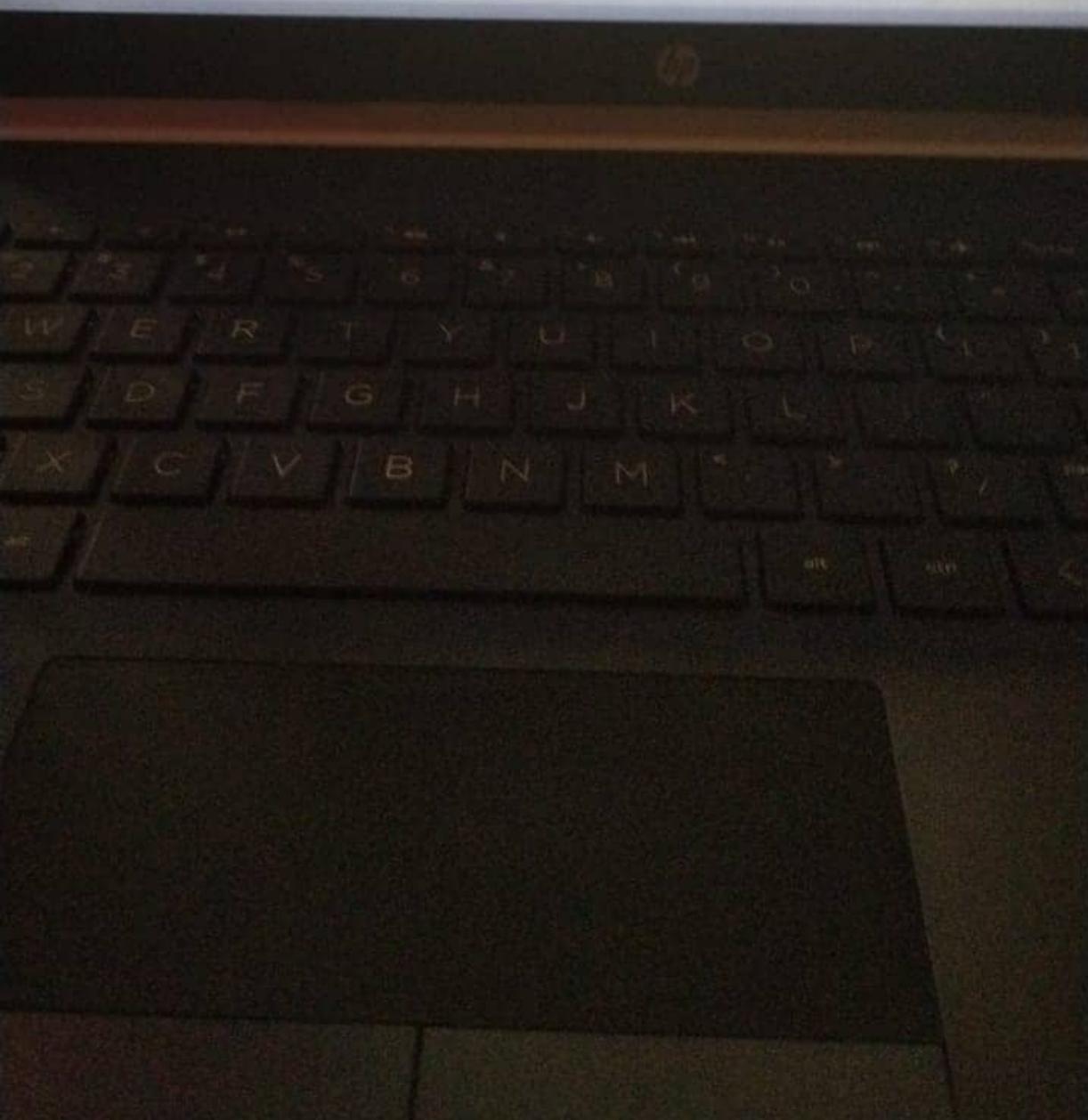
What is the initial State?

To what state does A go if 110101100 input to A in sequence starting from the initial state?

Find $N(C, 1)$

Find $N(F, 0)$

A
B
C
D
E
F



Question 4

Not yet answered

Marked out of
1.00

Flag question

Consider the function $f: \mathbb{R} \rightarrow \mathbb{R}$ $f(x) = x^2 + 5$

a) Is this a one-to-one function?

Yes

No

b) Is this an on to function?

Yes

No

b) Does the inverse exist?

Yes

No

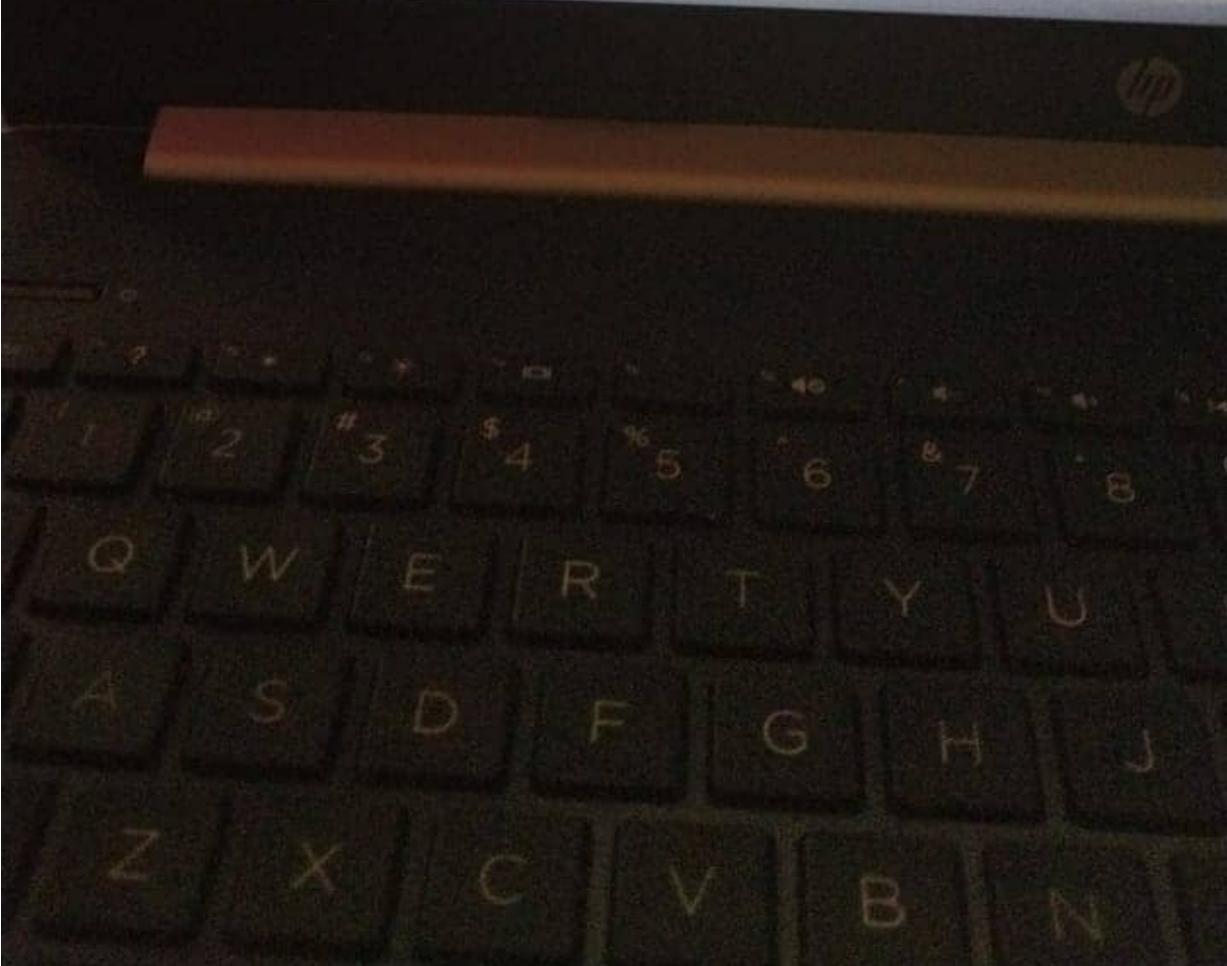
b) What is the inverse function?

$f^{-1}(x) = (x-5)^{1/2}$

$f^{-1}(x) = 1/(x-5)^{1/2}$

$f^{-1}(x) = (x-5)^2$

Does not exist





Question 6

Not yet answered
Marked out of 1

Flag question

Find the derivative of the following function.
(If your answer is not an integer, then write it as a quotient (eg:

$$h(x) = \frac{4x^3 - 7x + 8}{x}$$

$$h'(x) = 8 \quad x - 8 \quad x^{-2}$$

c) Find x using the cramer's rule.

$$x = \frac{|A_1|}{|A|}, A_1 = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

a = : b = : c = :

d = : e = : f = :

g = : h = : i = :

|A1| = :

x = :

d) Find y using the cramer's rule.

$$y = \frac{|A_2|}{|A|}, A_2 = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

a = : b = : c = :

d = : e = : f = :

g = : h = : i = :

|A2| = :

y = :

Sum of the two digits of a two-digit number is 15. When the sum of two and twice the tens digit is divided by 2 gives the unit digit. Write down 2 equations to find the unit digit (Y) and tens digit (X).

(Hint: For 34, 3 is the tens digit and 4 is the unit digit)

$$\boxed{} * X + \boxed{} * Y = \boxed{}$$

$$\boxed{} * X + \boxed{} * Y = 1$$

a) Write the above 2 equations in matrix form $Ax = b$. (According to the given order).

$$Ax = b$$

$$A = \begin{bmatrix} p & q \\ r & s \end{bmatrix} \quad x = \begin{bmatrix} t \\ u \end{bmatrix} \quad b = \begin{bmatrix} c \\ d \end{bmatrix}$$

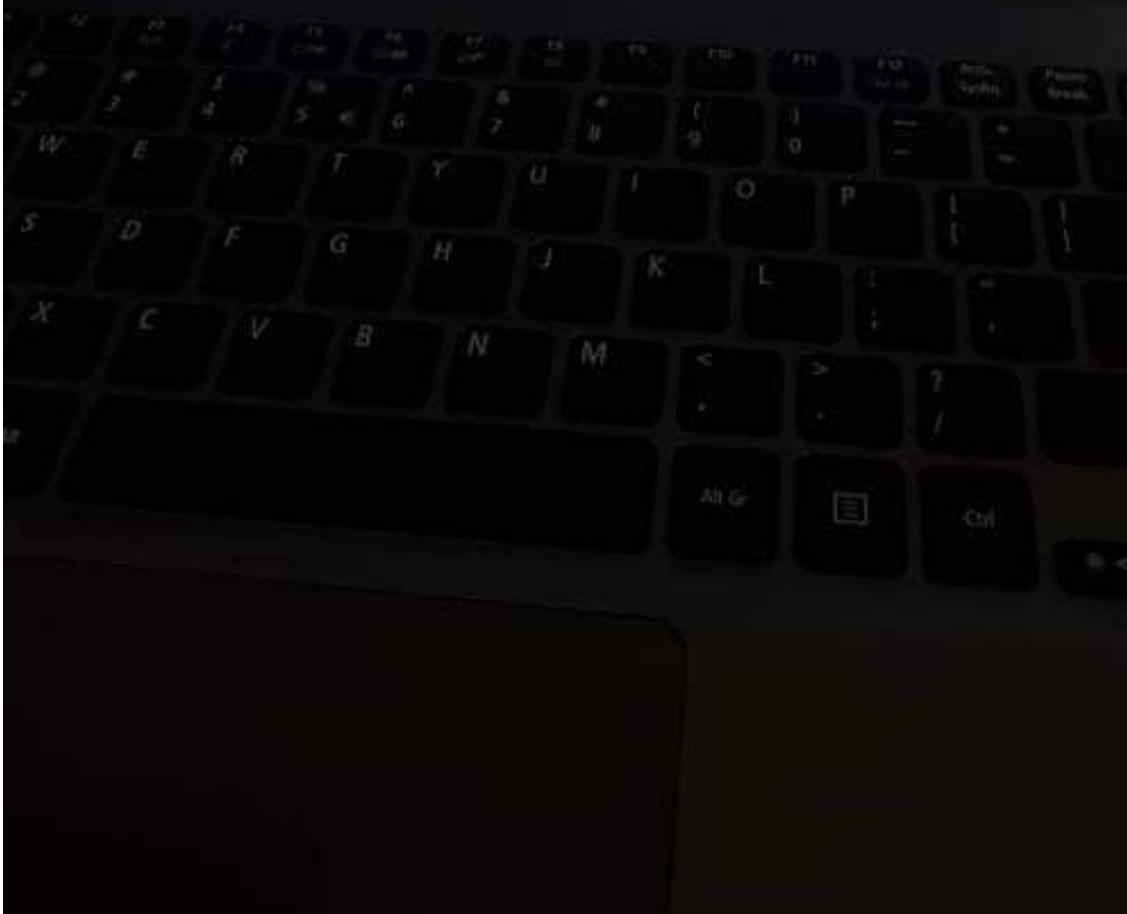
$$p = \quad q =$$

$$t = \quad u =$$

$$c =$$

$$d =$$

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and Vocational Training



2

swered
of

estion

Consider the function $f: \mathbb{R} \rightarrow \mathbb{R}$ $f(x) = x^3$.

a) Is this a one-to-one function?

Yes

No

b) Is this an onto function?

Yes

No

b) Does the inverse exist?

Yes

No

b) What is the inverse function?

$f^{-1}(x) = x^{1/3}$

$f^{-1}(x) = 1/x^3$

$f^{-1}(x) = x/3$

Does not exist

Consider the function $f:R \rightarrow R$ $f(x) = x^2$.

a) Is this a one-to-one function?

- Yes
- No

b) Is this an on to function?

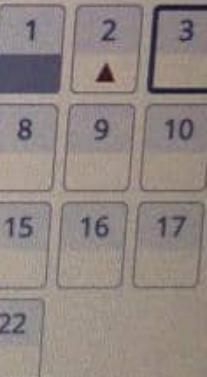
- Yes
- No

b) Does the inverse exist?

- Yes
- No

b) What is the inverse function?

- $f^{-1}(x) = x^{1/2}$
- $f^{-1}(x) = 1/x^2$
- $f^{-1}(x) = x-1$
- Does not exist



Sum of the two digits of a two-digit number is 15. When the sum of two and twice the tens digit is divided by 2 gives the unit digit. Write down 2 equations to find the unit digit (Y) and tens digit (X).

(Hint: For 34, 3 is the tens digit and 4 is the unit digit)

$$\boxed{} * X + \boxed{} * Y = \boxed{15}$$

$$\boxed{} * X + \boxed{} * Y = 1$$

a) Write the above 2 equations in matrix form $Ax = b$. (According to the given order).

$$Ax = b$$

$$A = \begin{bmatrix} p & q \\ r & s \end{bmatrix} \quad x = \begin{bmatrix} t \\ u \end{bmatrix} \quad b = \begin{bmatrix} c \\ d \end{bmatrix}$$

$$p = : \quad q = :$$

$$r = : \quad s = :$$

$$c = :$$

Question 12

Not yet answered

Marked out of
1.00

Flag question

Let $A = \begin{bmatrix} 1 & -5 & 4 \\ 2 & 3 & 1 \\ 3 & 0 & 5 \end{bmatrix}$

and $B=3A$; $C=B+2A-5I$. Find matrix D such that $D=2A+B-C$.

Assume I is the identity matrix.

$$D = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

a = :

b = :

c = :

d = :

e = :

f = :

g = :

h = :

i = :

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To buy a computer system, a customer can choose one of 8 monitors, one of 8 keyboards, one of 9 computers and one of 6 printers.

- a) Determine the number of possible systems that a customer can choose from.

Answer = :

- b) Another customer wants to buy a 2 monitors or 2 keyboards or 3 computers.

Find the possible ways of choosing monitor, keyboard and computer.

Answer = :

[Next page](#)

DELL



$$y = \frac{|A_2|}{|A|}, A_2 = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

$$a = : 2 \quad b = : 1 \quad c = : -1$$

$$d = : 3 \quad e = : 1 \quad f = : 2$$

$$g = : 1 \quad h = : 12 \quad i = : 3$$

$$|A_2| = : -84$$

$$y = : 2$$

d) Find z using the cramer's rule.

$$z = \frac{|A_3|}{|A|}, A_3 = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

$$a = : 2 \quad b = : 3 \quad c = : 1$$

$$d = : 3 \quad e = : -1 \quad f = : 1$$

$$g = : 1 \quad h = : 2 \quad i = : 12$$

$$|A_3| = : -126$$

$$y = : 3$$



Question 5

Not yet answered

Marked out of
1.00

Flag question

N Refers to all the positive integers. (Called as Natural Numbers)

$$f: N \rightarrow N \quad f(n) = x^3 - 3$$

Is f a One to one function?

Choose... ▾

Choose...

Yes

No

Choose... ▾

Is f an onto function?

Does f has an inverse function?

Next page



Question 2

Not yet answered

Marked out of
1.00

Flag question

Obtain the truth table for the following expression.

$$D = A\bar{B}C + \bar{A}\bar{B}\bar{C} + AB$$

A	B	C	$A\bar{B}C$	$\bar{A}\bar{B}\bar{C}$	AB	D
0	0	0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
0	0	1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
0	1	0	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
0	1	1	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>				
<input type="text"/>	<input type="text"/>	<input type="text"/>				
<input type="text"/>	<input type="text"/>	<input type="text"/>				

- b) Simplify the above expression (D) using the following boolean identities. In front of each step write down the reason (Number of the boolean identity according to following numbers).

Quiz navigation

Finish attempt...

Time left 1:51:46

1	2	3	4	5	6	7
9	10	11	12	13	14	15
17	18	19	20	21	22	

Question 6

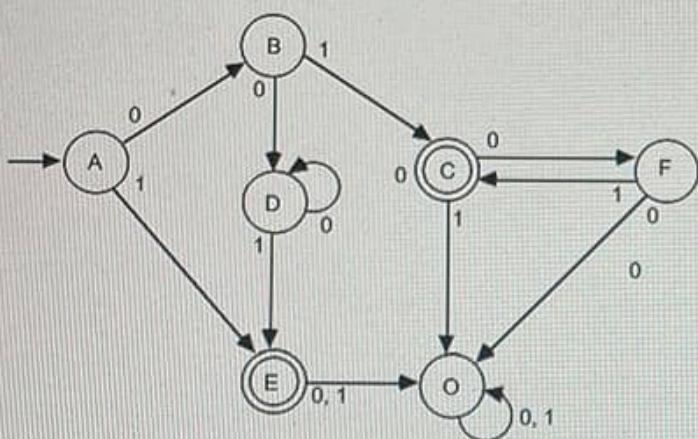
Not yet answered

Marked out of

1.00

Flag question

Consider the following finite state Machine A.



What is the initial State?

To what state does A go if 110101100 input to A in sequence starting from the initial state?

Find $N(C, 1)$

Find $N(F, 0)$

**Next**

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Consider the following function.

$$g: R \rightarrow R \quad g(x) = \frac{(5x - 15)}{2}$$

Find $g^{-1}(5)$

Hint : Find the inverse of g and substitute 5.

Answer:

Question 11

Not yet answered

Marked out of
1.00

Flag question

Sum of the two digits of a two-digit number is 15. When the sum of two and twice the tens digit is divided by 2 gives the unit digit. Write down 2 equations to find the unit digit (Y) and tens digit (X).

(Hint: For 34, 3 is the tens digit and 4 is the unit digit)

$$\boxed{} * X + \boxed{} * Y = \boxed{}$$

$$\boxed{} * X + \boxed{} * Y = 1$$

- a) Write the above 2 equations in matrix form $Ax = b$. (According to the given order).

$$Ax = b$$

$$A = \begin{bmatrix} p & q \\ r & s \end{bmatrix} \quad x = \begin{bmatrix} t \\ u \end{bmatrix} \quad b = \begin{bmatrix} c \\ d \end{bmatrix}$$

$$p = : \boxed{} \quad q = : \boxed{}$$

$$r = : \boxed{} \quad s = : \boxed{}$$

$$c = : \boxed{}$$

$$d = : \boxed{}$$

- b) Find the cofactor matrix (C) of A .

If $|A| = 71$ then find the cofactor matrix of A.

$$A = \begin{bmatrix} 1 & 7 & x \\ 5 & 4 & -2 \\ 2 & 3 & -3 \end{bmatrix}$$

C_{11} 

C_{12} 

C_{13} 



C_{21} 

C_{22} 

C_{23} 

$$\begin{array}{l} q = : 2 \\ q_1 = : 2 \\ q_2 = : 2 \\ \hline r = : 6 \\ r_1 = : 2 \\ r_2 = : 4 \end{array}$$

2. To find the solution, of the above linear system, obtain the three equations from the echelon form of the augmented matrix.

From row 3,

$$*X + \quad *Y + \quad *Z =$$

From row 2, b

$$*X + \quad *Y + \quad *Z =$$

From row 1,

$$*X + \quad *Y + \quad *Z =$$

3. Hence find the solution of the above linear system of equations.

$$X =$$

$$Y =$$

$$Z =$$

$g = :$ $gz = :$
 $h = :$ $h1 = :$ $h2 = :$
 $i = :$ $i1 = :$ $i2 = :$
 $p = :$ $p1 = :$ $p2 = :$
 $q = :$ $q1 = :$ $q2 = :$
 $r = :$ $r1 = :$ $r2 = :$

2. To find the solution, of the above linear system, obtain the three equations from the echelon form of the augmented matrix.

From row 3,

$$\boxed{} *X + \boxed{} *Y + \boxed{} *Z = \boxed{}$$

From row 2,

$$\boxed{} *X + \boxed{} *Y + \boxed{} *Z = \boxed{}$$

From row 1,

$$\boxed{} *X + \boxed{} *Y + \boxed{} *Z = \boxed{}$$

3. Hence find the solution of the above linear system of equations.

$$X = : \boxed{}$$

$$Y = : \boxed{}$$

$$Z = : \boxed{}$$



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Consider the following function.

$$f(x) = x^3 - 2x^2 + 5$$

1. Find $f'(-3)$:

2. Find the definite integral of $f(x)$ from -3 to 3 :