



Question 2

Not yet answered

Marked out of  
1.00

Flag 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 = :



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## Question 13

Not yet answered

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Find the following definite integral.

$$\int_{2}^{4} |3x - 4| dx$$

(Please remove spaces from the answer)

Answer: 34/3

I



Obtain the truth table for the following expression.

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

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

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).

Consider the following Boolean identities.

1. Double Complement Law
2. Idempotent Law
3. Identity Law
4. Universal Bound Law

≡ Quiz navigation

Finish attempt

Time left 1:59:31

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



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

$$f: N \rightarrow N \quad f(n) = x^4 - 2x + 1$$

Is  $f$  a One to one function?

Choose... 

Is  $f$  an onto function?

Choose... 

Does  $f$  has an inverse function?

Choose... 

**Question 9**

Not yet answered

Marked out of  
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Flag question

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

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

$C_{11}$

$C_{12}$

$C_{13}$

$C_{21}$

$C_{22}$

$C_{23}$

$C_{31}$



Question 11

Not yet answered

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Flag question

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

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

$C_{11}$

$C_{12}$

$C_{13}$

$C_{21}$

$C_{22}$

$C_{23}$

$C_{31}$

Consider the following linear system of equations.

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

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

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

(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  $Ax = b$ .

$$A = \begin{bmatrix} \square & \square & \square \\ \square & \square & \square \\ \square & \square & \square \end{bmatrix}$$

$$b = \begin{bmatrix} \square \\ \square \\ \square \end{bmatrix}$$

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

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

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

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

 Flag question

A	B	C	$\bar{A} \bar{B} C$	$\bar{A} \bar{B} \bar{C}$	AB	D
0	0	0	1	1	0	0
0	0	1	1	0	0	0
0	1	0	0	1	0	0
0	1	1	1	0	0	0

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).

Consider the following Boolean identities.

1. Double Complement Law

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Find the derivative of the following function.

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

$$f(t) = \frac{4}{t} - \frac{1}{6t^3} + \frac{8}{t^5}$$

$$f'(t) = \boxed{\phantom{-}} t \boxed{\phantom{-}} + \boxed{\phantom{-}} t^{-4} - 40 t \boxed{\phantom{-}}$$



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Question 10

yet answered

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Flag question

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:





## Question 14

Not yet answered

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1.00

Flag question

Simplify the following boolean expression.

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

Select one:

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

## ≡ Quiz navigation

Finish attempt ...

Time left 0:15:57

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

[Next page](#)



Question 8

Not yet answered

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1.00

Flag question

If  $|A| = 128$  then find the cofactor matrix of A.

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

C<sub>11</sub>

-14

4

23

10

41

15

24

-10

8

-8

-40

-4

14

40

-23

C<sub>21</sub>

-8

-40

-4

14

C<sub>22</sub>

40

-23

C<sub>23</sub>

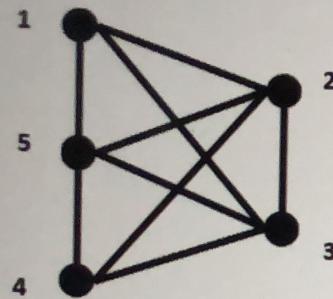
Choose... ▾

### Quiz navigation

Finish attempt ...

Time left 0:57:12

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



Euler Path =

- Yes
- No

Euler Circuit =

- Yes
- No

Hamilton Path =

- Yes
- No

Hamilton Circuit =

- Yes
- No

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

### QUESTION 1: Hamilton path or Hamilton

### ≡ Quiz navigation

Finish attempt ...

Time left 1:24:05

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



## Question 16

Not yet answered

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1.00 Flag question

If  $|A| = 43$  then find the cofactor matrix of A.

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

$C_{11}$

$C_{12}$

$C_{13}$

$C_{21}$

$C_{22}$

$C_{23}$

$C_{31}$

TAKING YOU TO A  
NEW REALITY

- 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 = :

- 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 = :

DELL



Question 5

Not yet answered

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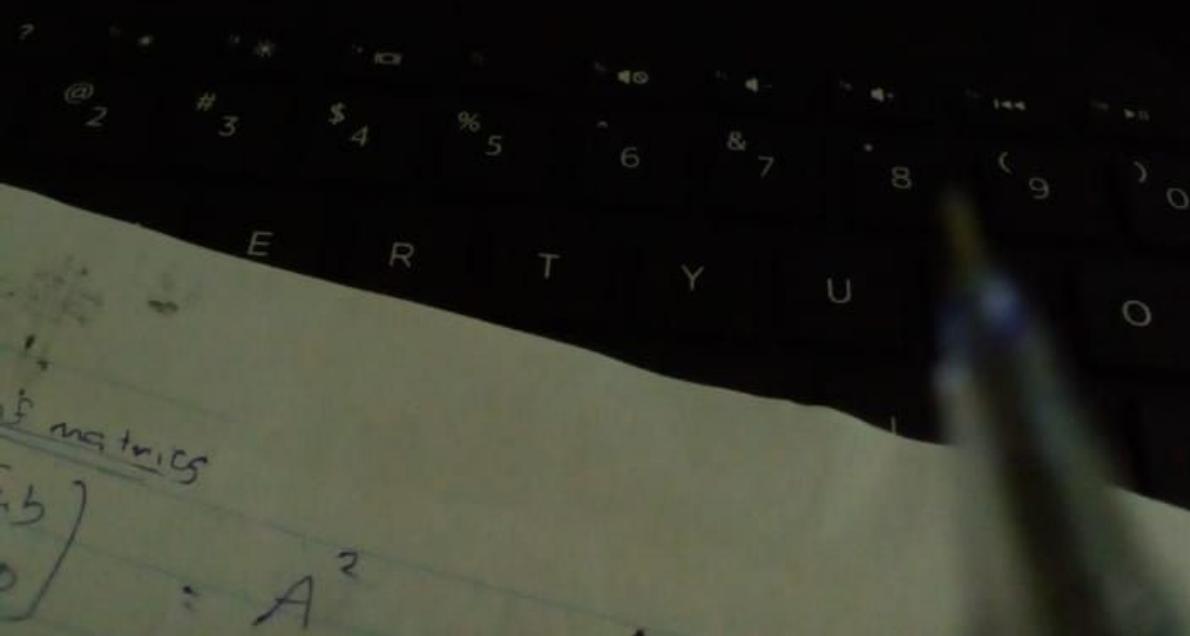
▼ Flag question

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 :





6

answered  
out of  
question

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

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

Assume I is the identity matrix.

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

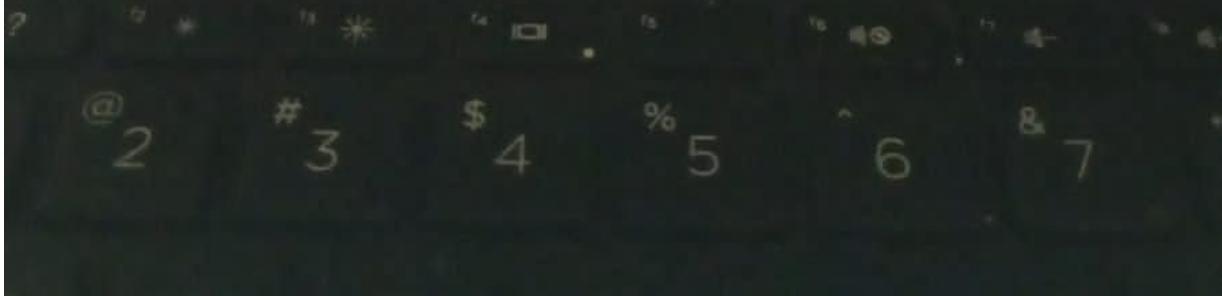
a = :

b = :

c = :

d = :

e = :



Find the following definite integral.

(If your answer is not an integer, then write it as a decimal)

$$\int_1^6 12x^3 - 9x^2 + 2 \, dx = 3250$$



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

$$a = \boxed{\phantom{00}} \quad b = \boxed{\phantom{00}} \quad c = \boxed{\phantom{00}}$$

$$d = \boxed{\phantom{00}} \quad e = \boxed{\phantom{00}} \quad f = \boxed{\phantom{00}}$$

$$g = \boxed{\phantom{00}} \quad h = \boxed{\phantom{00}} \quad i = \boxed{\phantom{00}}$$

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

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

$$a = \boxed{\phantom{00}} \quad b = \boxed{\phantom{00}} \quad c = \boxed{\phantom{00}}$$

$$d = \boxed{\phantom{00}} \quad e = \boxed{\phantom{00}} \quad f = \boxed{\phantom{00}}$$

$$g = \boxed{\phantom{00}} \quad h = \boxed{\phantom{00}} \quad i = \boxed{\phantom{00}}$$

$$p = \boxed{\phantom{00}} \quad q = \boxed{\phantom{00}} \quad r = \boxed{\phantom{00}}$$

$$x = \boxed{\phantom{00}}$$

$$y = \boxed{\phantom{00}}$$

$$z = \boxed{\phantom{00}}$$

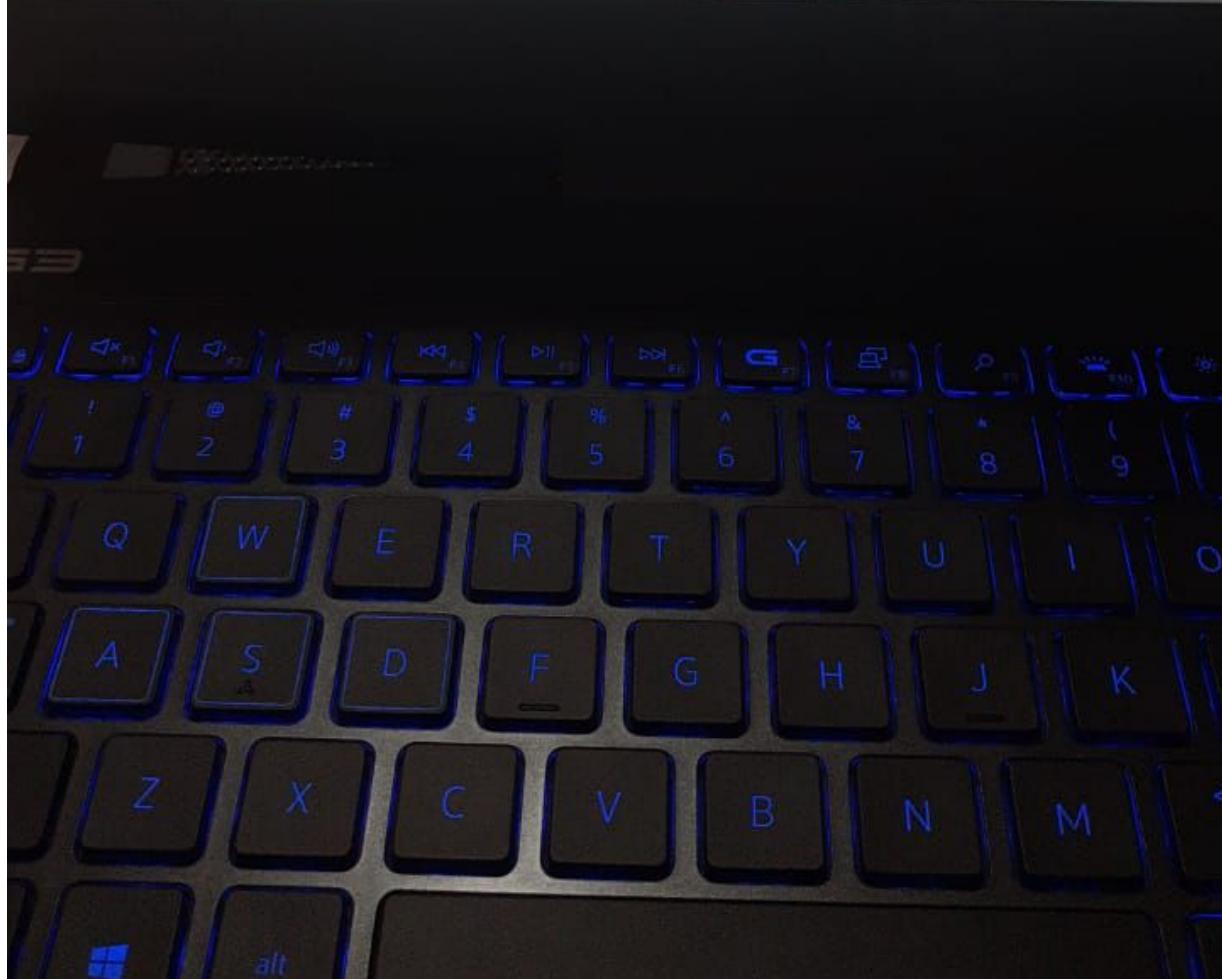


Simplify the following boolean expression.

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

Select one:

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



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Christy is selling tickets for an Exhibition. On the first day of the exhibition 35 adult tickets and 30 child tickets were sold for a total of 3000LKR. On the second day Christy got a revenue of 4200LKR by selling 50 adult tickets and 40 child tickets. Find the price of an adult ticket(X) and the price of a child ticket(Y).

\* X +  \* Y =

\* X +  \* Y = 4200

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 = :  q = :

r = :  s = :

c = :

d = :

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

$$C = \begin{bmatrix} a1 & a2 \\ a3 & a4 \end{bmatrix}$$

a1 = :  a2 = :   
a3 = :  a4 = :

Question 11

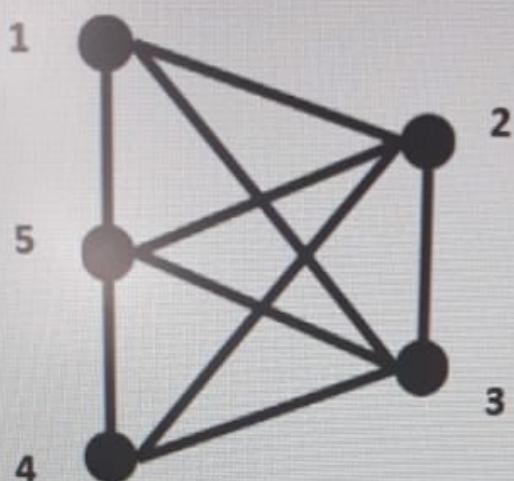
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Flag question

a) Determine whether the following graph



Euler Path =

- Yes
- No

Euler Circuit =

- Yes
- No

Hamilton Path =

- Yes
- No

Hamilton Circuit =

- Yes
- No



## Question 15

Not yet answered

Marked out of  
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Flag question

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

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

Is  $f$  a One to one function?

Choose... ▾

Is  $f$  an onto function?

Choose... ▾

Does  $f$  has an inverse function?

Choose... ▾

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Time left:

1	2
9	10
17	18

Next page



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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 = :  I



# NetExam

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Question 1

Not yet answered

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

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

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

a = :

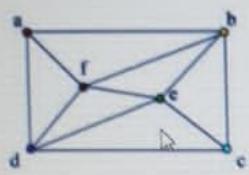
b = :

c = :

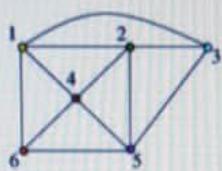
d = :



Consider the following 2 graphs.



G



H

Number of Components

Number of Vertices

Number of Edges

Degree Sequence

1	2	3	4	5	6
---	---	---	---	---	---

1	2	3	4	5	6
---	---	---	---	---	---

Are they isomorphic?

G and H are

Isomorphic

Not Isomorphic



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Question 2

Not yet answered  
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Flag question

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

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?

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



# NetExam

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Question 2

Not yet answered  
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Flag question

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

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?

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

- Does not exist

## NetExam

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To buy a computer system, a customer can choose one of 5 monitors, one of 8 keyboards, one of 7 computers.

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

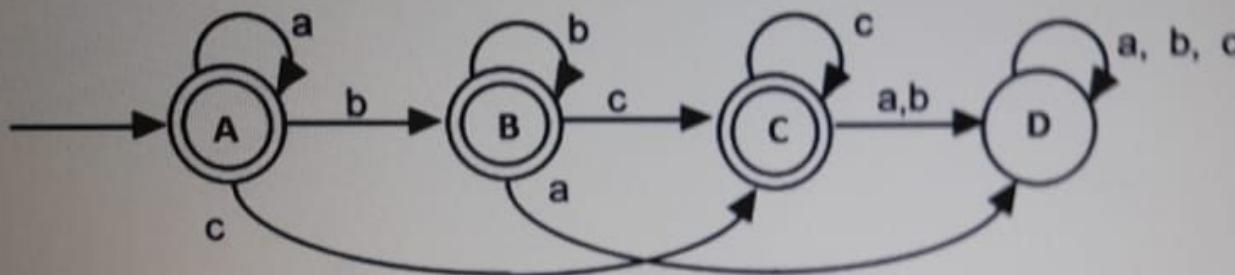
Answer = : 1680

b) Another customer wants to buy a monitor or 2 keyboards or a computer.  
Find the possible ways of choosing monitor, keyboard and computer.

Answer = : 504



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  $N(D, b)$

A

Choose...

D

D

b

Next page

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

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

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

$a = \boxed{-1/6}$   $b = \boxed{-5/6}$   $c = \boxed{-1/6}$   
 $d = \boxed{-4/3}$   $e = \boxed{1/3}$   $f = \boxed{2/3}$   
 $g = \boxed{-1/2}$   $h = \boxed{1/2}$   $i = \boxed{1/2}$

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

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

$a = 1$   $b = -2$   $c = 3$   
 $d = -2$   $e = 1$   $f = -2$   
 $g = 3$   $h = -3$   $i = 7$   
 $p = x$   $q = y$   $r = z$

$x = \boxed{-1}$   
 $y = \boxed{2}$   
 $z = \boxed{1}$



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p =  q =  r =

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

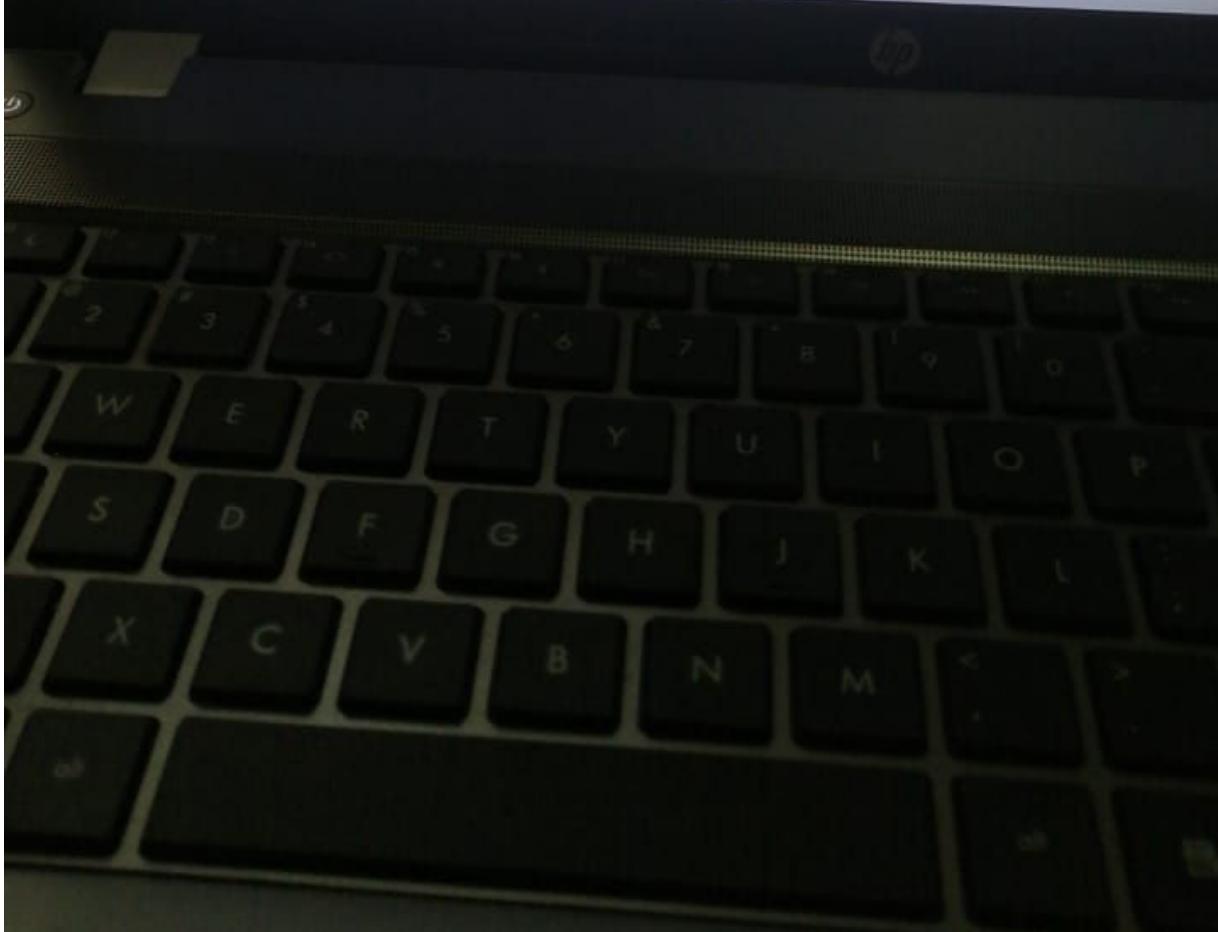
$$A^{-1} = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

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

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



Moodle

p =  q =  r =

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

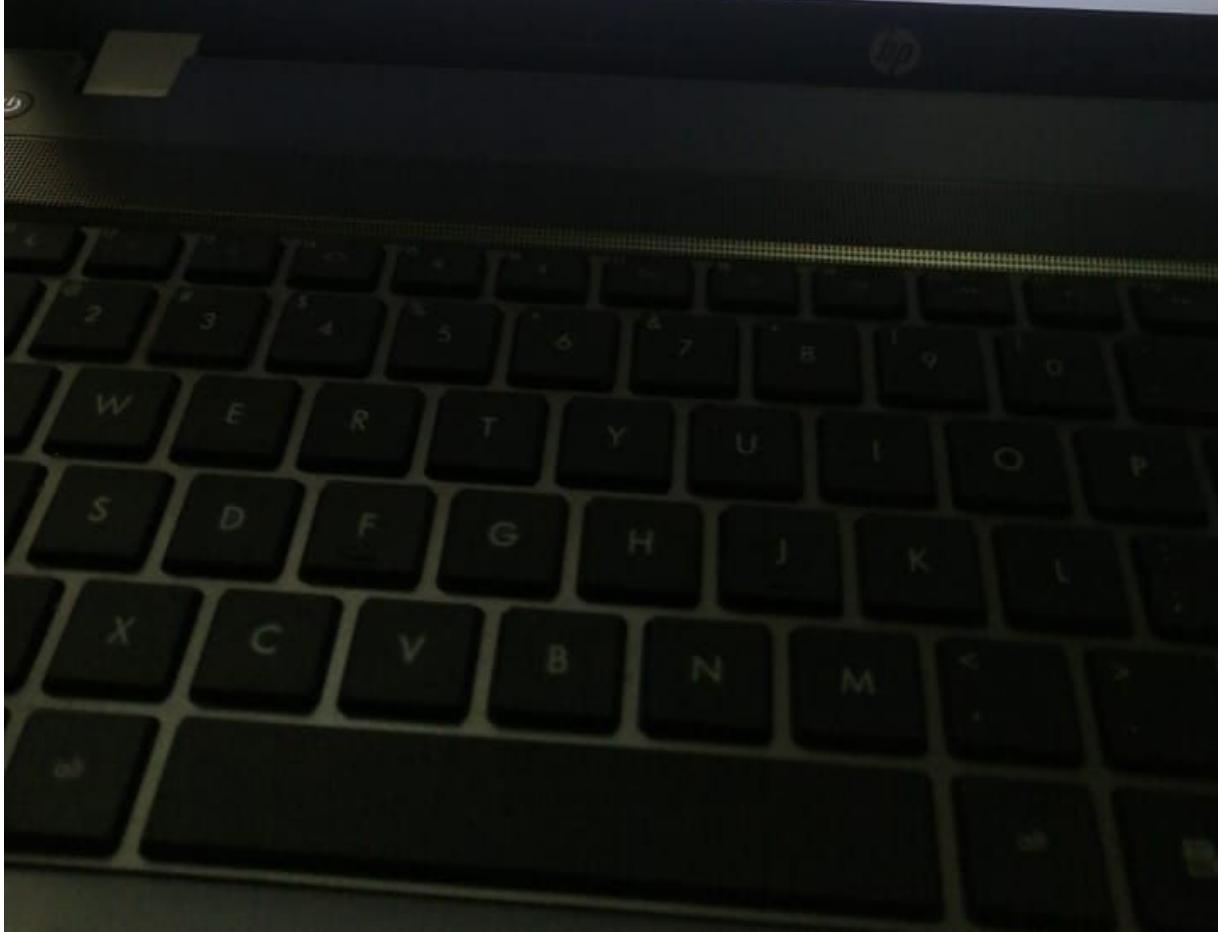
$$A^{-1} = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

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

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





Question 5  
Not yet answered  
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Flag question

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 15

Not yet answered

Marked out of  
1.00

Flag question

Find the derivative of the following function.

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

$$f(y) = \frac{y^5 - 5y^3 + 2y}{y^3}$$

$$f'(y) = 2 \boxed{y} - 4 \boxed{y}^{-3}$$

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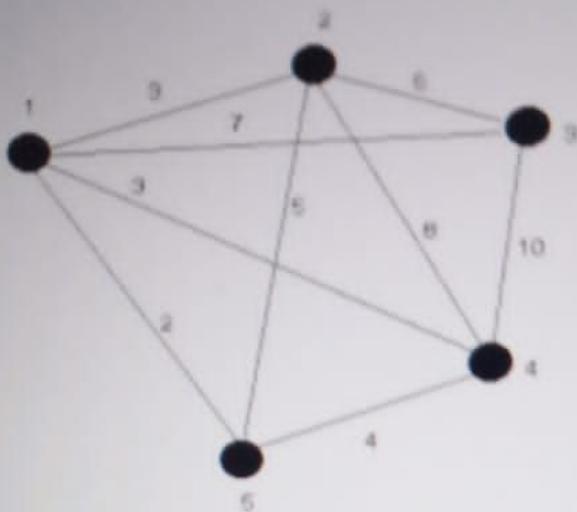
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NEW REALITY

swered  
it of  
question

a) Determine whether the following graph has



Euler Path =

Yes

No

Euler Circuit =

Yes

No

Hamilton Path =

Yes

No

Hamilton Circuit =

Yes

No

b) Write down the adjacency matrix for the above graph

Operations are applied in the given order.

$$\begin{bmatrix} 1 & -2 & 3 & 1 & 0 & 0 \\ -2 & 1 & -2 & 0 & 1 & 0 \\ 3 & -3 & 7 & 0 & 0 & 1 \end{bmatrix} \rightarrow \begin{bmatrix} a & b & c & j & k & l \\ d & e & f & m & n & o \\ g & h & i & p & q & r \end{bmatrix}$$

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

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

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

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

$$5. r'_2 = r_2 - 4r_3$$

$$6. r'_2 = r_2 \times -\frac{1}{3}$$

$$7. r'_1 = r_1 - 3r_3$$

$$a = \boxed{\phantom{00}} \quad b = \boxed{\phantom{00}} \quad c = \boxed{\phantom{00}}$$

$$d = \boxed{\phantom{00}} \quad e = \boxed{\phantom{00}} \quad f = \boxed{\phantom{00}}$$

$$g = \boxed{\phantom{00}} \quad h = \boxed{\phantom{00}} \quad i = \boxed{\phantom{00}}$$

$$j = \boxed{\phantom{00}} \quad k = \boxed{\phantom{00}} \quad l = \boxed{\phantom{00}}$$

$$m = \boxed{\phantom{000}} \quad n = \boxed{\phantom{000}} \quad o = \boxed{\phantom{000}}$$

$$p = \boxed{\phantom{000}} \quad q = \boxed{\phantom{000}} \quad r = \boxed{\phantom{000}}$$

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

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



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)

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = \boxed{\phantom{0}}$$

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = 1$$

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

$$Ax = b$$

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

$$p = : \boxed{\phantom{0}} \quad q = : \boxed{\phantom{0}}$$

$$r = : \boxed{\phantom{0}} \quad s = : \boxed{\phantom{0}}$$

$$c = : \boxed{\phantom{0}}$$

$$d = : \boxed{\phantom{0}}$$

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

$$C = \begin{bmatrix} a1 & a2 \\ a3 & a4 \end{bmatrix}$$

$$a1 = : \quad a2 = :$$

$$a3 = : \quad a4 = :$$

*Find the determinant of A*

SAMSUNG

A	B	C	$ABC$	$\bar{A}\bar{B}C$	$\bar{A}\bar{B}\bar{C}$	D
0	0	0	0	0	1	1
0	0	1	0	0	0	0
0	1	0	0	0	0	0
0	1	1	0	0	0	0
1	0	0	0	1	0	1
1	0	1	0	0	0	1
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.  
 write down the number of the correct boolean identity.

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

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Moodle

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Question 8  
Not yet answered  
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Flag question

Consider the following function.

$$f(x) = x^4 - x^2 + 20$$

1. Find  $f'(-4)$  :

2. Find the definite integral of  $f(x)$  from -3 to 3 :   
(Round your answer to one decimal place)

The image shows a portion of a computer keyboard. The visible keys include the function keys F1 through F12, the numeric keypad (0-9), and some special characters like #, %, ^, &, \*, and /.

#### Question 4

Not yet answered

Marked out of  
1.00

 Flag question

Consider the following linear system of equations.

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

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

$$x + 2y + 3z = 12$$

a) Represent the above system of linear equations in matrix form

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

a = : 2    b = : 3    c = : -1

d = : 3 e = : -1 f = : 2

g = : 1 h = : 2 i = : 3

$p = : 1$

**q = :** 1

12

b) Find the determinant of A. :

The HP logo is a circular emblem featuring the lowercase letters "hp" in a stylized, italicized font.

A S D F G H J

Moodle  
Marked out of 1.00  
Flag question

A

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

1. Write down the augmented matrix for the above system of linear equations and reduce 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 = ;  
b = ;  
c = ;  
d = ;  
e = ;  
f = ;  
g = ;  
h = ;  
i = ;  
p = ;  
q = ;  
r = ;

a<sub>1</sub> = ;  
b<sub>1</sub> = ;  
c<sub>1</sub> = ;  
d<sub>1</sub> = ;  
e<sub>1</sub> = ;  
f<sub>1</sub> = ;  
g<sub>1</sub> = ;  
h<sub>1</sub> = ;  
i<sub>1</sub> = ;  
p<sub>1</sub> = ;  
q<sub>1</sub> = ;  
r<sub>1</sub> = ;

a<sub>2</sub> = ;  
b<sub>2</sub> = ;  
c<sub>2</sub> = ;  
d<sub>2</sub> = ;  
e<sub>2</sub> = ;  
f<sub>2</sub> = ;  
g<sub>2</sub> = ;  
h<sub>2</sub> = ;  
i<sub>2</sub> = ;  
p<sub>2</sub> = ;  
q<sub>2</sub> = ;  
r<sub>2</sub> = ;

a<sub>3</sub> = ;  
b<sub>3</sub> = ;  
c<sub>3</sub> = ;  
d<sub>3</sub> = ;  
e<sub>3</sub> = ;  
f<sub>3</sub> = ;  
g<sub>3</sub> = ;  
h<sub>3</sub> = ;  
i<sub>3</sub> = ;  
p<sub>3</sub> = ;  
q<sub>3</sub> = ;  
r<sub>3</sub> = ;

2. To find the solution of the above linear system obtain the values from the echelon form.

MacBook Air

Find the following definite integral.

$$\int_{2}^{4} |3x - 4| dx$$

(Please remove spaces from the answer)

Answer:

I

Question 4

Not yet answered

Marked out of  
1.00

Flag question

a) Obtain the truth table for the following expression.

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

A	B	C	ABC	$A\bar{B}\bar{C}$	$\bar{A}\bar{B}\bar{C}$	D
0	0	0	0	0	1	1
0	0	1	0	0	0	0
0	1	0	0	0	0	0
0	1	1	0	0	0	0
1	0	0	0	1	0	1
1	0	1	0	0	0	0
1	1	0	0	0	0	0
1	1	1	1	0	0	1

b) Simplify the above expression (D) using the following boolean identities. In front of each step write down the number of the correct boolean identity.

Consider the following Boolean identities.

If  $|A| = 128$  then find the cofactor matrix of A.

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

$C_{11}$  Choose... ▾

$C_{12}$  Choose... ↗

Choose...

8

40

24

-4

23

10

-8

-14

14

-23

$C_{21}$

-10

41

-40

4

15

$C_{22}$

Choose... ▾

$C_{23}$

$C_{31}$  Choose... ▾

on 2

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d out of

g question

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

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

Assume I is the identity matrix.

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

$$a = : 30$$

$$b = : 10$$

$$c = : 0$$

$$d = : 5$$

$$e = : 10$$

$$f = : -5$$

$$g = : 15$$

$$h = : 10$$

$$i = : 20$$



1080p  
Full HD



on 1  
st answered  
d out of  
g question

Quiz r

Finish attem

Time left 1:57

1	2
8	9
15	16
22	

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 = : 434

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

elow.  
please scroll all the way down.

Advertisement

-  = Check your own answer
-  = Export the expression (e.)

$$|5x - 4|$$



No further simplification found!

Approximation:

34.5

Approximation was obtained through numerical integration. The estimated absolute error is  
 $3.830269434956791 \cdot 10^{-13}$ .

84°F Light rain



DELL

end insert delete

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

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

Is  $f$  a One to one function?

Yes 

Is  $f$  an onto function?

No 

Does  $f$  has an inverse function?

Yes 



\* ! # \$ % ^ & \_ 3 4 5 6 7

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 = :

d) Find y using the cramer's rule.

$$\begin{bmatrix} a & b & c \end{bmatrix}$$

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

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

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

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

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

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

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

$$5. r_2' = r_2 - 4r_3$$

$$6. r_2' = r_2 \times -\frac{1}{3}$$

$$7. r_1' = r_1 - 3r_3$$

$$a = \quad b = \quad c =$$

$$d = \quad e = \quad f =$$

$$g = \quad h = \quad i =$$

$$j = \quad k = \quad l =$$

$$m = \quad n = \quad o =$$

$$p = \quad q = \quad r =$$

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

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

X |  |  | 

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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](#)



## Question 10

Not yet answered  
Marked out of  
1.00

Flag 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 = :

tion 9

answered  
out of  
question

Consider the following linear system of equations.

$$\begin{aligned}x + y - z &= 3 \\2x + 3y + z &= 1 \\x - 4y - z &= 7\end{aligned}$$

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

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

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

$$\begin{aligned}p &= : \\q &= : \\r &= :\end{aligned}$$

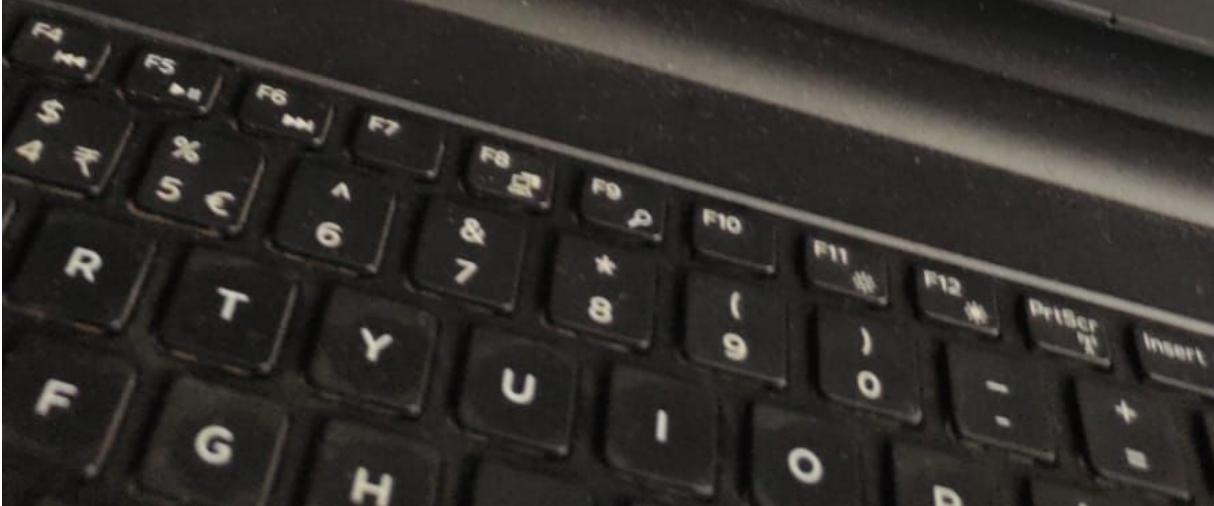
b) Find the determinant of  $A_1$ :

c) Find  $x$  using the cramer's rule.

$$|A_1|$$

$$\begin{bmatrix} a & b & c \\ \downarrow & \downarrow & \downarrow \\ d & e & f \end{bmatrix}$$

DELL





## Question 5

Not yet answered

Marked out of  
1.00

Flag question

Consider the following linear system of equations.

$$2x + y - z = 6$$

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

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

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

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

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

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

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

$$p = : 6$$

$$q = : 3$$

$$r = : -3$$

$$f(x) = \frac{x^2 + 1}{5x - 3}$$

Find  $f'(-1)$ .

Hint : Differentiate the function and Su

(Write your answer as a fraction. Eg: 23  
No spaces should be in the answer)

Answer:

To buy a computer system, a customer can choose one of 8 monitors, one of 3 keyboards, one of 9 computers and one of 5 printers.

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

Answer = :

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

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

Answer = :

Next p





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7  
answered  
out of  
question

Consider the following linear system of equations.

$$\begin{aligned}x + 2y + z &= 5 \\ -2x + 3y - 3z &= 4 \\ 4y + 2z &= 8\end{aligned}$$

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

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

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

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

$$g = : \quad h = : \quad i = :$$

$$p = :$$

$$q = :$$

$$r = :$$

b) Find the determinant of A.

No

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

	1	2	3	4	5
1	a	b	c	d	e
2	f	g	h	i	j
3	k	l	m	n	o
4	p	q	r	s	t
5	u	v	w	x	y

a = :  b = :  c = :  d = :  e = :

f = :  g = :  h = :  i = :  j = :

k = :  l = :  m = :  n = :  o = :

p = :  q = :  r = :  s = :  t = :

u = :  v = :  w = :  x = :  y = :

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

Does this graph exist?

Yes

No

@ 2 # 3 \$ 4 % 5 ^ 6 & 7

W

E

R

T

Y

U

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 convert it to echelon form.

$$\begin{bmatrix} a & b & c & p \\ d & e & f & q \\ g & h & i & r \end{bmatrix} \rightarrow \begin{bmatrix} a_1 & b_1 & c_1 & p_1 \\ d_1 & e_1 & f_1 & q_1 \\ g_1 & h_1 & i_1 & r_1 \end{bmatrix} \rightarrow \begin{bmatrix} a_2 & b_2 & c_2 & p_2 \\ d_2 & e_2 & f_2 & q_2 \\ g_2 & h_2 & i_2 & r_2 \end{bmatrix} \rightarrow$$

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

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

$$r'_3 = r_3 - 2r_2$$

a = :      a<sub>1</sub> = :      a<sub>2</sub> = :      a<sub>3</sub> = :

b = :      b<sub>1</sub> = :      b<sub>2</sub> = :      b<sub>3</sub> = :

c = :      c<sub>1</sub> = :      c<sub>2</sub> = :      c<sub>3</sub> = :

d = :      d<sub>1</sub> = :      d<sub>2</sub> = :      d<sub>3</sub> = :

e = :      e<sub>1</sub> = :      e<sub>2</sub> = :      e<sub>3</sub> = :

f = :      f<sub>1</sub> = :      f<sub>2</sub> = :      f<sub>3</sub> = :

g = :      g<sub>1</sub> = :      g<sub>2</sub> = :      g<sub>3</sub> = :



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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 = :

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 :



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2

Answered

out of

question

Find the following definite integral.

$$\int_{-1}^0 |3x - 4| dx$$

(Write your answer as a fraction Eg: 3/2, Please remove spaces f

Answer: 11/2



30

Christy is selling tickets for an Exhibition. On the first day of the exhibition 35 adult tickets and 30 child tickets were sold for a total of 2350LKR. On the second day Christy got a revenue of 3300LKR by selling 50 adult tickets and 40 child tickets. Find the price of an adult ticket(X) and the price of a child ticket(Y).

$35 * X + 30 * Y = 2350$

$50 * X + 40 * Y = 3300$

$Ax = b$

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

$C_{11} : M_1 F_{12} - M_{12}$

$C_{21} : M_2 F_{12} - M_{12}$

$C_{11} : M_1 F_{12} - M_{12}$

$C_{21} : M_2 F_{12} - M_{12}$

$p = 35, q = 30$

$r = 50, s = 40$

$c = 2350$

$d = 3300$

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

$$C = \begin{bmatrix} a_1 & a_2 \\ a_3 & a_4 \end{bmatrix}$$

Technology

$n$   $B_{11}$   $B_{12}$   $B_{13}$   $B_{14}$

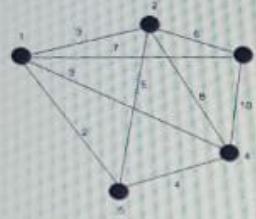
a customer can choose one of 8 monitors, one of 8 keyboards, one of 9 mice.  $8 \times 8 \times 9 = 2304$  possible systems that a customer can choose from.

to buy a monitor, keyboard and computer only.

choosing monitor, keyboard and computer.

Question 1  
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  
 No

Euler Circuit =

- Yes  
 No

Hamilton Path =

- Yes  
 No

Hamilton Circuit =

- Yes  
 No

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

1 2 3 4 5

$$\begin{matrix} 1 & \begin{bmatrix} a & b & c & d & e \\ f & g & h & i & j \\ k & l & m & n & o \\ p & q & r & s & t \\ u & v & w & x & y \end{bmatrix} \\ 2 & \\ 3 & \\ 4 & \\ 5 & \end{matrix}$$

$$a = : \quad b = : \quad c = : \quad d = : \quad e = : \\ f = : \quad g = : \quad h = : \quad i = : \quad j = : \\ k = : \quad l = : \quad m = : \quad n = : \quad o = : \\ p = : \quad q = : \quad r = : \quad s = : \quad t = : \\ u = : \quad v = : \quad w = : \quad x = : \quad y = :$$

Quiz navigation

Finish attempt ...

Time left 1:59:18

1	2	3	4	5	6	7
11	12	13	14	15	16	17
21	22					



# NetExam

Sri Lanka Institute of Information Technology

Question 8

Not yet answered  
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\* Flag question

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

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

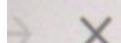
$$B = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

a = :

b = :

c = :

d = :



n 1

answered  
d out of

g question

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

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

**Sri Lanka Institute of Information Technology**

To buy a computer system, a customer can choose one of 5 monitors, one of  
one of 7 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 monitor or 2 keyboards or a computer.  
Find the possible ways of choosing monitor, keyboard and computer.  
Answer = :

[Next page](#)





stion 11

yet answered

marked out of

Flag question

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

≡ Q

Finish

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17

Question 4

Not yet answered

Marked out of  
1.00 Flag question

Consider the following linear system of equations.

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

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

$$x + 2y + 3z = 12$$

a) Represent the above system of linear equations in matrix form.

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

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

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

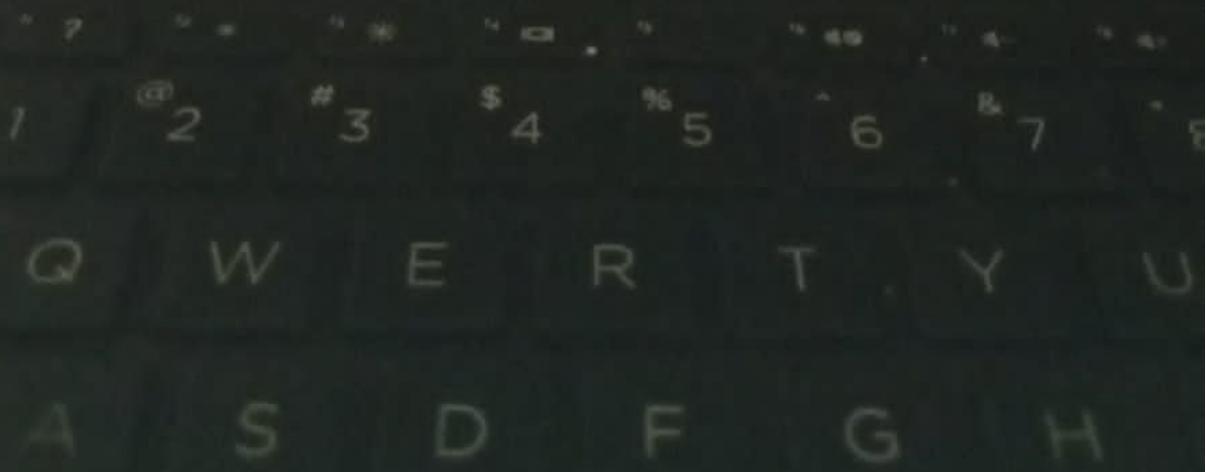
$$g = : 1 : \quad h = : 2 : \quad i = : 3 :$$

$$p = : 1 :$$

$$q = : 1 :$$

$$r = : 12 :$$

b) Find the determinant of A. :



## NetExam

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John is running a concession stand at a volleyball game. John is selling Noodle packs and Milo packets. Each Noodle pack costs 80LKR and each Milo packet costs 50LKR. At the end John had a total of 5700LKR. John sold a total of 90 Noodle packs and Milo Packets combined. Write down 2 equations to find, number of Noodle packs( $x$ )and Milo packets ( $y$ ) sold?

$$[ ] * X + [ ] * Y =$$

$$[ ] * X + [ ] * Y = 90$$

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

$$Ax = b$$

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

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

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

$$c = :$$

$$d = :$$

Christy is selling tickets for an Exhibition. On the first day of the exhibition 35 adult tickets and 30 child tickets were sold for a total of 2350LKR. On the second day Christy got a revenue of 3300LKR by selling 50 adult tickets and 40 child tickets. Find the price of an adult ticket(X) and the price of a child ticket(Y).

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = \boxed{\phantom{0}}$$

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = 3300$$

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

$$Ax = b$$

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

$p = :$    $q = :$

**r = :**       **s = :**

**C = :**

**d = :**

Consider the following linear system of equations.

$$\begin{aligned}x - 2y - z &= 4 \\3x - 2y + 3z &= 0 \\2x - 3y + 2z &= 5\end{aligned}$$

(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))

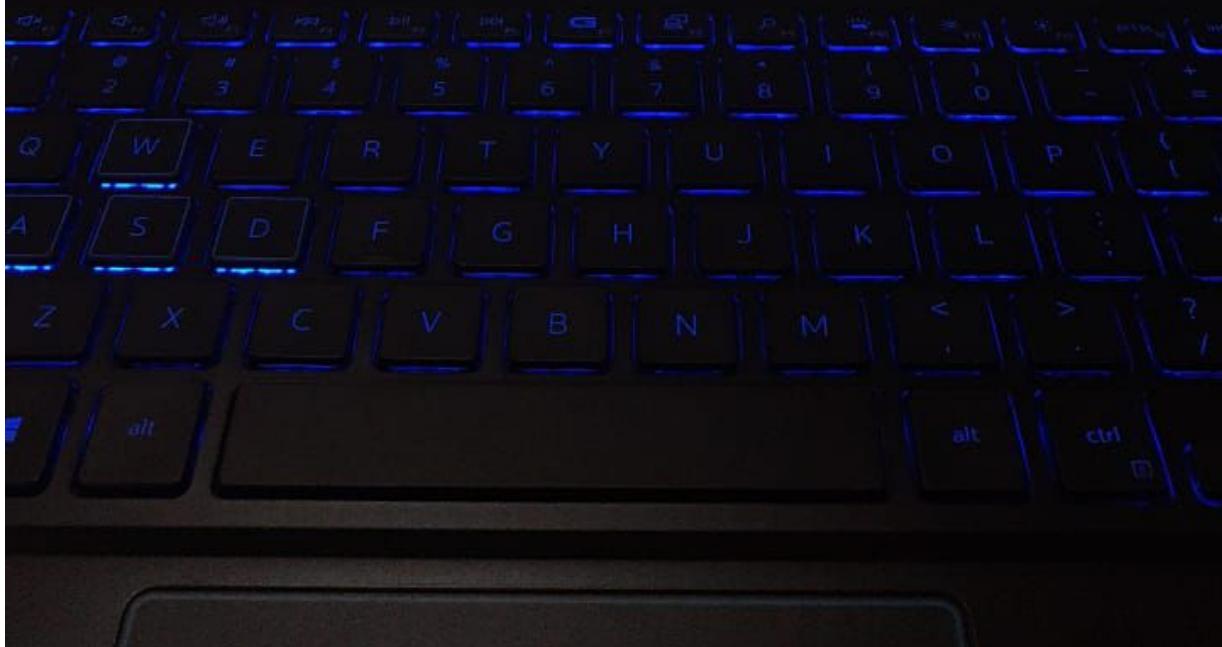
a) Write down the above three equations in matrix form  $Ax = b$ .

$$A = \begin{bmatrix} \square & \square & \square \\ \square & \square & \square \\ \square & \square & \square \end{bmatrix}$$

$$b = \begin{bmatrix} \square \\ \square \\ \square \end{bmatrix}$$

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

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



**Question 7**

Not yet answered

Marked out of  
1.00

Flag question

Consider the following linear system of equations.

$$x + 2y + z = 5$$

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

$$4y + 2z = 8$$

a) Represent the above system of linear equations in matrix form A

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

$$a = : \boxed{\phantom{00}} \quad b = : \boxed{\phantom{00}} \quad c = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}} \quad e = : \boxed{\phantom{00}} \quad f = : \boxed{\phantom{00}}$$

$$g = : \boxed{\phantom{00}} \quad h = : \boxed{\phantom{00}} \quad i = : \boxed{\phantom{00}}$$

$$p = : \boxed{\phantom{00}}$$

$$q = : \boxed{\phantom{00}}$$

$$r = : \boxed{\phantom{00}}$$

b) Find the determinant of A. :

c) Find x using the cramer's rule.



# NetExam

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

Find  $f'(-1)$ .

Hint : Differentiate the function and Substitute -1.

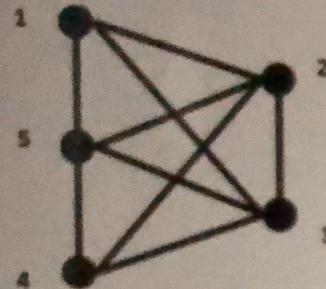
(Write your answer as a fraction. Eg: 23/2  
No spaces should be in the answer)

Answer:



Question 3  
of yet answered  
Marked out of  
0.00  
Flag 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

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

≡ Quiz navigation

Finish attempt

Time left 1:37:53

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

# NetExam

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Consider the following linear system of equations.

$$\begin{aligned}2x + 3y - z &= 1 \\3x - y + 2z &= 1 \\x + 2y + 3z &= 12\end{aligned}$$

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

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

$$a := \boxed{2} \quad b := \boxed{3} \quad c := \boxed{-1}$$

$$d := \boxed{3} \quad e := \boxed{-1} \quad f := \boxed{2}$$

$$g := \boxed{1} \quad h := \boxed{2} \quad i := \boxed{3}$$

$$p := \boxed{1}$$

$$q := \boxed{1}$$

$$r := \boxed{12}$$

b) Find the determinant of A. :

c) Find x using the cramer's rule.

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

$$a := \boxed{\phantom{00}} \quad b := \boxed{\phantom{00}} \quad c := \boxed{\phantom{00}}$$

$$d := \boxed{\phantom{00}} \quad e := \boxed{\phantom{00}} \quad f := \boxed{\phantom{00}}$$

$$g := \boxed{\phantom{00}} \quad h := \boxed{\phantom{00}} \quad i := \boxed{\phantom{00}}$$

doodle

et answered  
ed out of  
lag question

Green Leaf Landscaping Company got two orders from a kindergarten. The first order for 15 bushes and 8 trees, and the cost was 3850LKR. The second order was for 8 bushes and 5 trees, and the cost was 2200LKR. Write down 2 equations to find the cost of a bush and a tree ( $Y$ ).

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = \boxed{\phantom{000}}$$

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = 2200$$

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

$$Ax = b$$

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

$$p = : \boxed{\phantom{00}} \quad q = : \boxed{\phantom{00}}$$

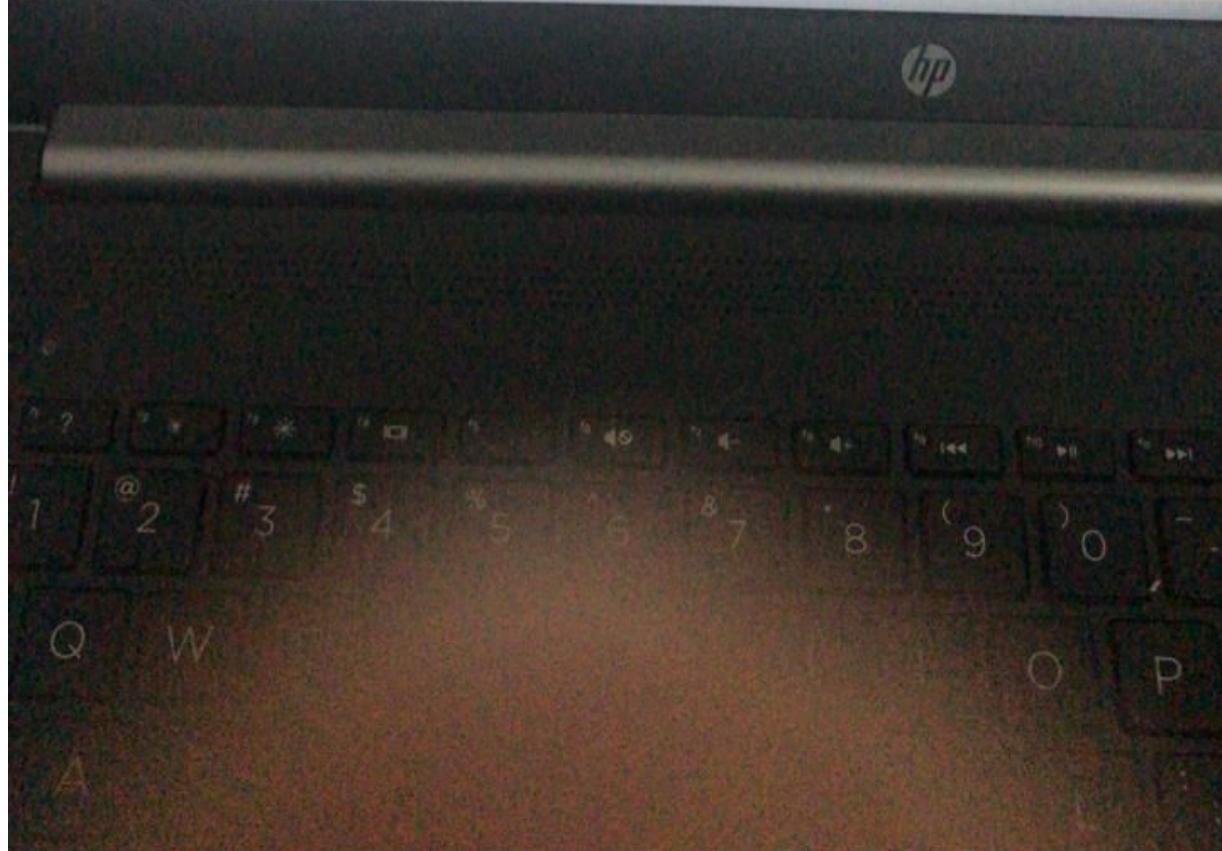
$$r = : \boxed{\phantom{00}} \quad s = : \boxed{\phantom{00}}$$

$$t = : \boxed{\phantom{00}}$$

$$u = : \boxed{\phantom{00}}$$

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

$$C = \begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{bmatrix}$$



A	B	C	$A + B$	$A + C$	$(\bar{A} + \bar{B})$	D
0	0	0	0	0	1	0
0	0	1	0	1	1	0
0	1	0	1	0	1	0
0	1	1	1	1	1	1
1	0	0	1	1	1	1
1	0	1	1	1	1	1
1	1	0	1	1	0	0
1	1	1	1	1	0	d

b) Simplify the above expression (D) using the following boolean identities. In front of each

a) Convert  $7452_{10}$  to following number systems.

Equivalent Binary Number (x) =

Equivalent Octal Number (y) =

Equivalent Hexadecimal Number (z) =

b) 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)  $10101010 + 11001100 =$   (Write your answer with 9 digits)

ii)  $11001100 - 10101010 =$   (Write your answer with 6 digits)

iii)  $1001100 \times 1010 =$   (Write your answer with 10 digits)

iv)  $1001100 \div 101$

Quotient =  (Write your answer with 4 digits)

Remainder =  (Write your answer with 2 digits)



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 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



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:

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

Not yet answered

Marked out of  
1.00

Flag question

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

$C_{11}$

$C_{12}$

$C_{13}$

$C_{21}$

$C_{22}$

$C_{23}$

$C_{31}$

$C_{32}$

$C_{33}$

X



# NetExam

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a) Convert  $7452_{10}$  to following number systems.

Equivalent Binary Number (x) =

Equivalent Octal Number (y) =

Equivalent Hexadecimal Number (z) =

b) 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)  $10101010 + 11001100 = \boxed{\phantom{000}}$  (Write your answer with 9 digits)

ii)  $11001100 - 10101010 = \boxed{\phantom{000}}$  (Write your answer with 6 digits)

iii)  $1001100 \times 1010 = \boxed{\phantom{0000}}$  (Write your answer with 10 digits)

iv)  $1001100 \div 101$

Quotient =  (Write your answer with 4 digits)

Remainder =  (Write your answer with 2 digits)

SAMSUNG

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

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

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

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

$$3. r'_2 = r_2 \times \frac{-1}{3}$$

$$4. r'_3 = r_3 + 7r_2$$

$$5. r'_3 = r_3 \times \frac{-1}{2}$$

$$a = \boxed{\phantom{00}} \quad b = \boxed{\phantom{00}} \quad c = \boxed{\phantom{00}}$$

$$d = \boxed{\phantom{00}} \quad e = \boxed{\phantom{00}} \quad f = \boxed{\phantom{00}}$$

$$g = \boxed{\phantom{00}} \quad h = \boxed{\phantom{00}} \quad i = \boxed{\phantom{00}}$$

$$j = \boxed{\phantom{00}} \quad k = \boxed{\phantom{00}} \quad l = \boxed{\phantom{00}}$$

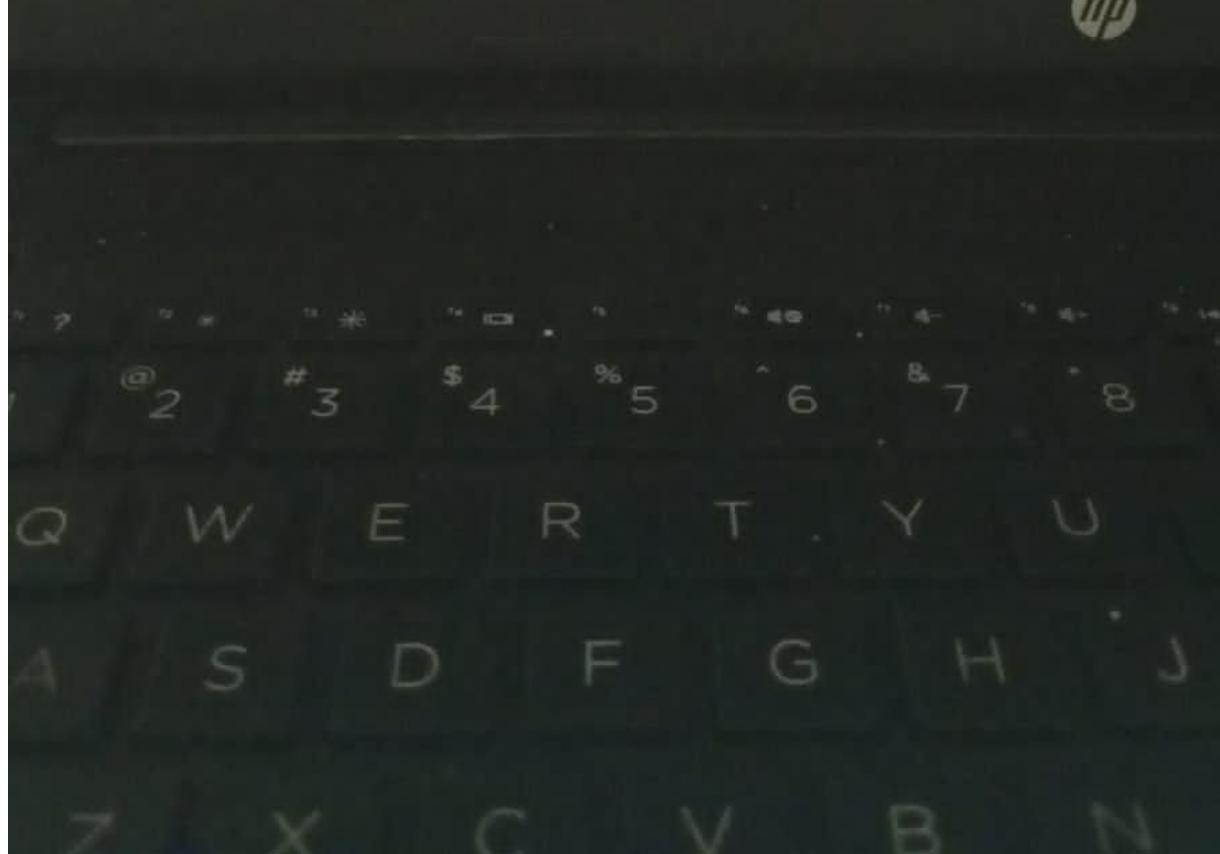
Ques 1  
Not answered  
0 out of  
1 question

Obtain the truth table for the following expression.

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

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

b) Simplify the above expression (D) using the following boolean identities



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

$$a = : 5 : \quad b = : 2 : \quad c = : 1 :$$

$$d = : 4 : \quad e = : 3 : \quad f = : -3 :$$

$$g = : 8 : \quad h = : 4 : \quad i = : 2 :$$

$$|A_1| = : 18 :$$

$$x = : 1 :$$

d) Find y using the cramer's rule.

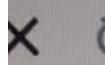
$$y = \frac{|A_2|}{|A|}, A_2 = \begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}$$

$$a = : 1 : \quad b = : 5 : \quad c = : 1 :$$

$$d = : -2 : \quad e = : 4 : \quad f = : -3 :$$

$$g = : 0 : \quad h = : 8 : \quad i = : 2 :$$

$$|A_2| = : 36 :$$



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

red

ion

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

 $C_{11}$ ▼

Choose...

-21

7

20

-3

-9

2

-4

-7

-31

21

-11

-13

11

-6

3

-14

 $C_{21}$  $C_{22}$  $C_{23}$ 

Choose... ▼

 $C_{31}$ 

Choose... ▼

$$\begin{bmatrix} 1 & -2 & 3 & 1 & 0 & 0 \\ -2 & 1 & -2 & 0 & 1 & 0 \\ 3 & -3 & 7 & 0 & 0 & 1 \end{bmatrix} \rightarrow \begin{bmatrix} a & b & c & j & k & l \\ d & e & f & m & n & o \\ g & h & i & p & q & r \end{bmatrix}$$

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

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

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

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

$$5. r'_2 = r_2 - 4r_3$$

$$6. r'_2 = r_2 \times -\frac{1}{3}$$

$$7. r'_1 = r_1 - 3r_3$$

$$a = 1 \quad b = -2 \quad c = 0$$

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

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

$$j = -5/2 \quad k = -3/2 \quad l = -3/2$$

$$m = -4/3 \quad n = 1/3 \quad o = 2/3$$

$$p = -1/2 \quad q = 1/2 \quad r = 1/2$$

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

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

$$a = \boxed{1/2} \quad b = \boxed{7/10} \quad c = \boxed{-4/5}$$

$$d = \boxed{0} \quad e = \boxed{2/5} \quad f = \boxed{-3/5}$$

$$g = \boxed{-1/2} \quad h = \boxed{-1/10} \quad i = \boxed{2/5}$$

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

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

$$a = \boxed{\phantom{00}} \quad b = \boxed{\phantom{00}} \quad c = \boxed{\phantom{00}}$$

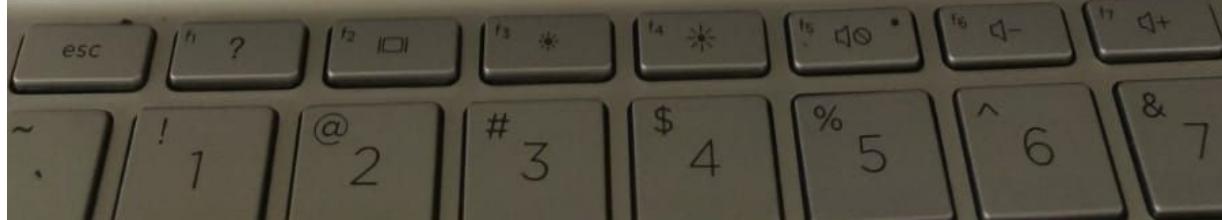
$$d = \boxed{\phantom{00}} \quad e = \boxed{\phantom{00}} \quad f = \boxed{\phantom{00}}$$

$$g = \boxed{\phantom{00}} \quad h = \boxed{\phantom{00}} \quad i = \boxed{\phantom{00}}$$

$$p = \boxed{\phantom{00}} \quad q = \boxed{\phantom{00}} \quad r = \boxed{\phantom{00}}$$

$$x = \boxed{\phantom{00}}$$

$$y = \boxed{\phantom{00}}$$



← → × ⌂ | ⓘ | ⌂

a = : 1   b = : 5   c = : 1

d = : -2   e = : 4   f = : -3

g = : 0   h = : 8   i = : 2

|A2| = : 36

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 = : 1   b = : 2   c = : 5

d = : -2   e = : 3   f = : 4

g = : 0   h = : 4   i = : 8

|A3| = : 0

y = : 0



Christy is selling tickets for an Exhibition. On the first day of the exhibition 35 adult tickets and 30 child tickets were sold for a total of 3000LKR. On the second day Christy got a revenue of 4200LKR by selling 50 adult tickets and 40 child tickets. Find the price of an adult ticket(X) and the price of a child ticket(Y).

$$35x * X + 30y * Y = 3000$$

$$50 * X + 40y * Y = 4200$$

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

$$Ax = b$$

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

$$p = : 35 \quad q = : 30$$

$$r = : 50 \quad s = : 40$$

$$c = : 3000$$

$$d = : 4200$$

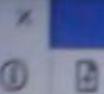
b) Find the cofactor matrix(C) of A.

$$C = \begin{bmatrix} a1 & a2 \\ a3 & a4 \end{bmatrix}$$

$$a1 = : \quad a2 = :$$

$$a3 = : \quad a4 = :$$

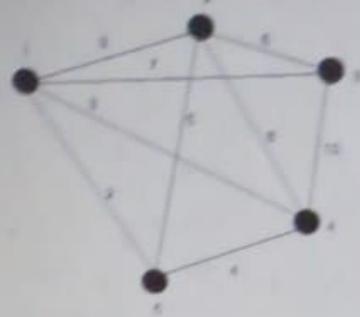
Module



Marked out of

1.00

Flag question



Euler Path =

Yes

No

Euler Circuit =

Yes

No

Hamilton Path =

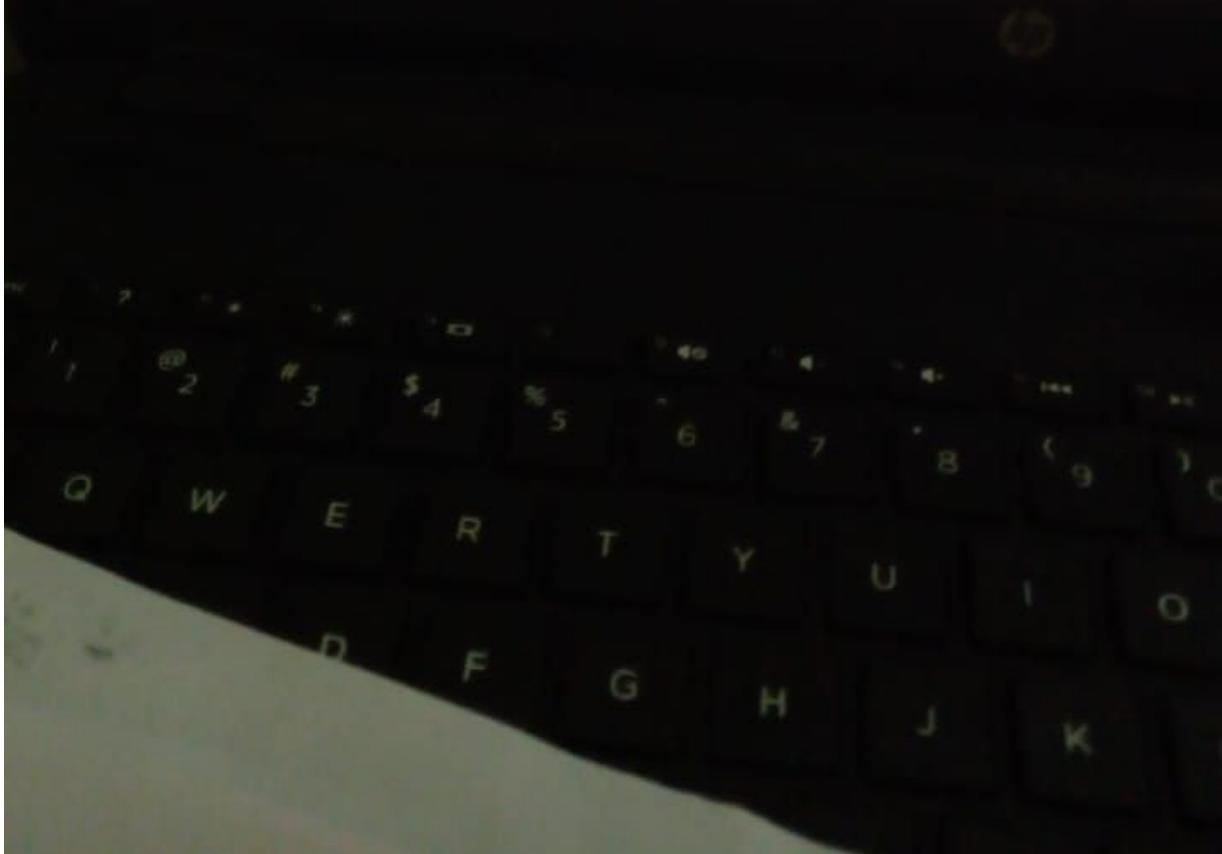
Yes

No

Hamilton Circuit =

Yes

No



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

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

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

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

$$3. r'_2 = r_2 \times \frac{-1}{3}$$

$$4. r'_3 = r_3 + 7r_2$$

$$5. r'_3 = r_3 \times \frac{-1}{2}$$

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

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

$$g = 0 \quad h = -7 \quad i =$$

$$j = 1 \quad k = \quad l =$$

$$m = \quad n = \quad o =$$

$$p = \quad q = \quad r =$$

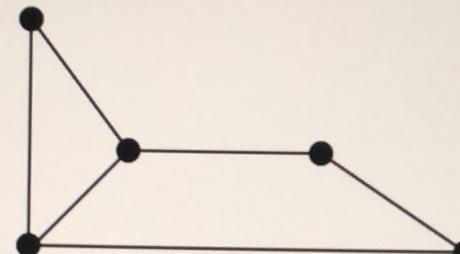
Activate Windows  
Go to Setup > Activation

Question 13  
Not yet answered  
Marked out of 1.00  
 Flag question

Consider the following 2 graphs.



G



H

Number of Components

Number of Vertices

Number of Edges

Degree Sequence , , , ,

G

H

Are they isomorphic?

G and H are

- isomorphic
- Not Isomorphic

≡ Quiz navigation

Finish attempt ...

Time left 0:22:33

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

Consider the following linear system of equations:

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

$$3x - 2y + 3z = 0$$

$$2x - 3y + 2z = 5$$

(If your answer is not an integer, then write it as a fraction.)

(Simplify your answer as much as possible. Common factors should be there in numerator and denominator.)

a) Write down the above three equations in matrix form.

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

$$b = \begin{matrix} 4 \\ 0 \\ 5 \end{matrix}$$

b) Consider the following. Find the values of the elementary row operations applied in the given row operations.

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Find the derivative of the following function.

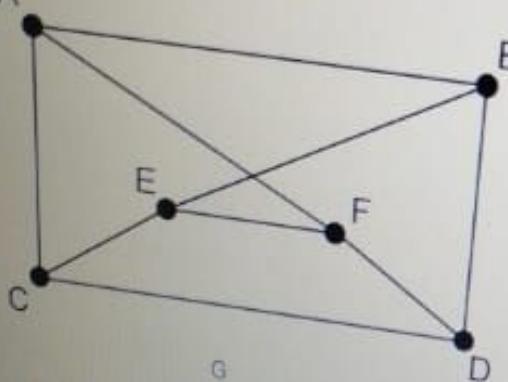
(If your answer is not an integer, then write it as a quotient (eg: 2/5))

$$R(z) = \frac{6}{\sqrt{z^3}} + \frac{1}{8z^4} - \frac{1}{3z^{10}}$$

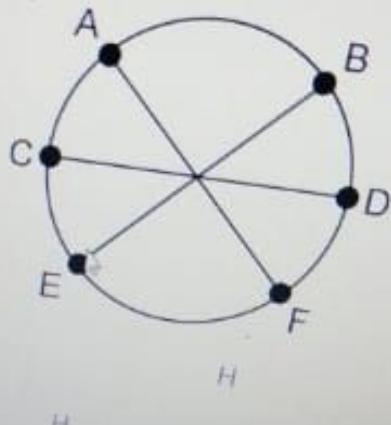
$$R'(z) = \boxed{\phantom{0}} z^{\boxed{\phantom{0}}} - \boxed{\phantom{0}} z^{-5} + (10/3) z^{\boxed{\phantom{0}}}$$

Consider the following 2 graphs.

a)



b)



Number of Components  
Number of Vertices  
Number of Edges  
Degree Sequence

Are they isomorphic?  
G and H are



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

$$f: N \rightarrow N \quad f(n) = x^3 - 2x + 1$$

Is  $f$  a One to one function?

Choose... ▾

Is  $f$  an onto function?

Choose... ▾

Does  $f$  has an inverse function?

Choose... ▾



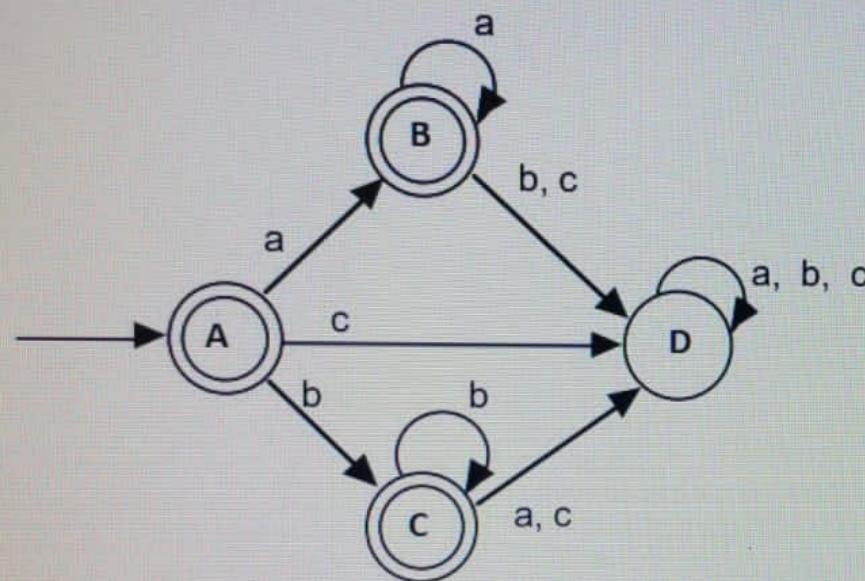
**Question 1**

Not yet answered

Marked out of  
1.00

Flag question

Consider the following finite state Machine A.



What is the initial State?

Choose... ▾

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

Choose... ▾

Find  $N(C, a)$

Choose... ▾

Find  $N(D, b)$

Choose... ▾

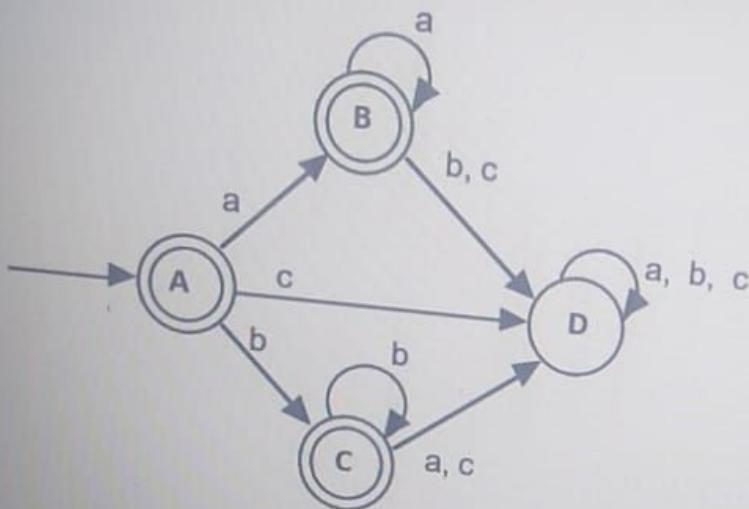
Quiz navigation

Finish attempt...

Time left 1:59:39

1	2	3	4
8	9	10	11
15	16	17	18
22			

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  $N(D, b)$

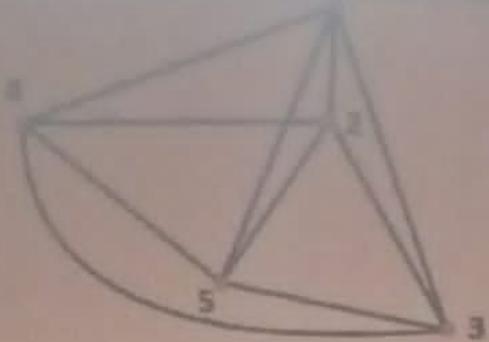
Choose... ▾

Choose... ▾

Choose... ▾

Choose... ▾

Next page



Euler Path =

Yes

No

Euler Circuit =

Yes

No

Hamilton Path =

Yes

No

Hamilton Circuit =

Yes

No

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

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).

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

$$\begin{aligned}(A + B)(A + C)(\bar{A} + \bar{B}) \\&= (A + (BC))(\bar{A} + \bar{B}) \quad ? \\&= (A + (BC)).\bar{A} + (A + (BC)).\bar{B} \quad ? \\&= (A\bar{A} + (BC)\bar{A}) + (A\bar{B} + (BC)\bar{B}). \quad ? \\&= (0 + (BC)\bar{A}) + (A\bar{B} + 0) \quad ? \\&= (BC)\bar{A} + A\bar{B} \quad ?\end{aligned}$$

**Question 6**

Not yet answered

Marked out of  
1.00

Flag question

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

$$f: N \rightarrow N \quad f(n) = n^2$$

Is  $f$  a One to one function?

Choose... ▾

Is  $f$  an onto function?

Choose... ▾

Does  $f$  has an inverse function?

Choose... ▾

Next page



Question 4

Not yet answered

Marked out of

0

Flag question

Simplify the following boolean expression.

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

Select one:

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

[Next page](#)



$$a = : 5 \quad b = : 2 \quad c = : 1$$

$$d = : 4 \quad e = : 3 \quad f = : -3$$

$$g = : 8 \quad h = : 4 \quad i = : 4$$

$$|A_1| = : 66$$

$$x = : -11$$

d) Find y using the cramer's rule.

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

$$a = : 1 \quad b = : 5 \quad c = : 1$$

$$d = : -2 \quad e = : 4 \quad f = : -3$$

$$g = : 0 \quad h = : 8 \quad i = : 4$$

$$|A_2| = : \square$$

$$y = : \square$$

d) Find z using the cramer's rule.

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



$$a = : 5 \quad b = : 2 \quad c = : 1$$

$$d = : 4 \quad e = : 3 \quad f = : -3$$

$$g = : 8 \quad h = : 4 \quad i = : 4$$

$$|A_1| = : 66$$

$$x = : -11$$

d) Find y using the cramer's rule.

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

$$a = : 1 \quad b = : 5 \quad c = : 1$$

$$d = : -2 \quad e = : 4 \quad f = : -3$$

$$g = : 0 \quad h = : 8 \quad i = : 4$$

$$|A_2| = :$$

$$y = :$$

d) Find z using the cramer's rule.

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



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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.

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

$$a = : \boxed{\phantom{00}}$$

$$b = : \boxed{\phantom{00}}$$

$$c = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}}$$

$$e = : \boxed{\phantom{00}}$$



Consider the following function.

$$g: R \rightarrow R \quad g(x) = \frac{(3x - 7)}{2}$$

Find  $g^{-1}(4)$

Hint : Find the inverse of g and substitute 4.

Answer:

Next page 

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

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

Is  $f$  a One to one function?

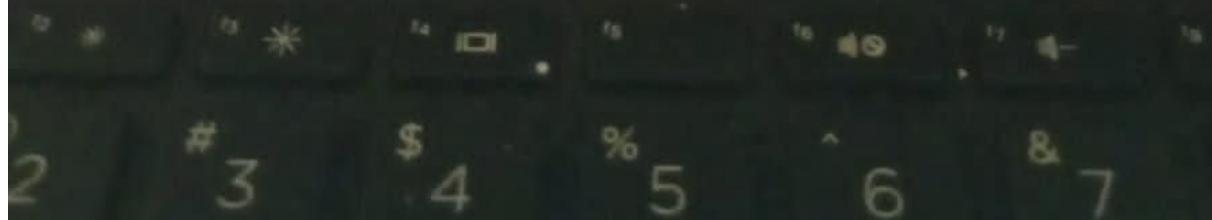
No 

Is  $f$  an onto function?

Yes 

Does  $f$  has an inverse function?

Choose 



x | i | +

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Find the derivative of the following function.  
(If your answer is not an integer, then write it as a quotient (eg: 2/5))

$y = \sqrt{x} + 8\sqrt[3]{x} - 2\sqrt[4]{x}$

$y' = \boxed{1/2} x^{\boxed{-1/2}} + \boxed{8/3} x^{\boxed{-2/3}} - \boxed{1/2} x^{\boxed{-3/4}}$

↓

hp

2  
answered  
out of  
question

Consider the following linear system of equations.

$$\begin{aligned}x + 2y + z &= 5 \\ -2x + 3y - 3z &= 4 \\ 4y + 2z &= 8\end{aligned}$$

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

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

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

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

$$g = : 0 \quad h = : 4 \quad i = : 2$$

$$p = : 5$$

$$q = : 4$$

$$r = : 8$$

b) Find the determinant of A.: 18

c) Find x using the cramer's rule.

$$x = \frac{|A_1|}{|A|}, A_1 = \begin{bmatrix} a & b & c \\ d & e & f \\ p & q & r \end{bmatrix}$$

≡ Quiz navigation

Finish attempt ...

Time left 1:45:48

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



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)

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = \boxed{\phantom{0}}$$

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = 1$$

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

$$Ax = b$$

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

$$p = : \boxed{\phantom{0}} \quad q = : \boxed{\phantom{0}}$$

$$r = : \boxed{\phantom{0}} \quad s = : \boxed{\phantom{0}}$$

$$c = : \boxed{\phantom{0}}$$

$$d = : \boxed{\phantom{0}}$$

### Quiz navigation

Finish attempt ...

Time left 0:49:29

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

b) Find the value of  $t$  (Q. 11)

MacBook Pro



Simplify the following boolean expression.

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

Select one:

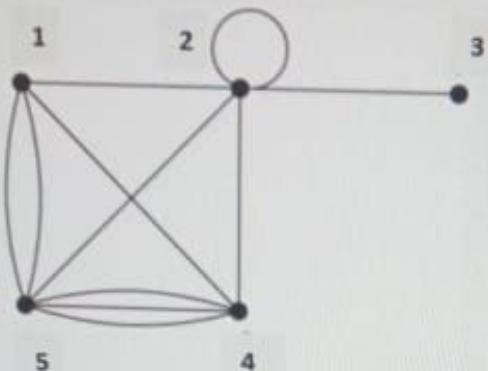
- B
- A+B+C
- 1
- A(B+C)
- None of the above

Question 6

Not yet answered

Marked out of  
1.00 Flag question

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



Euler Path =

- Yes  
 No

Euler Circuit =

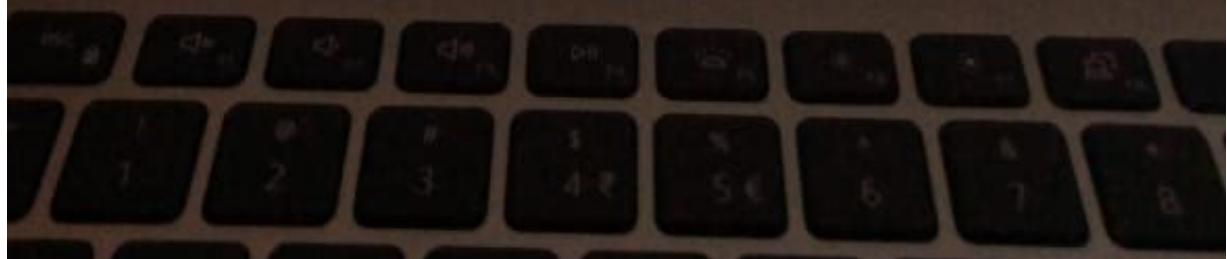
- Yes  
 No

Hamilton Path =

- Yes  
 No

Hamilton Circuit =

- Yes  
 No



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).

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

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

$$= A \cdot 1 + \bar{A}B + \bar{A}C \quad 3$$

$$= A(\bar{A} + 1) + \bar{A}B + \bar{A}C \quad 10$$

$$= A\bar{A} + A + \bar{A}B + \bar{A}C \quad 9$$

$$= \bar{A}(A + B + C) + A \quad 9$$

Consider the following linear system of equations.

$$\begin{aligned}x + y - z &= -3 \\2x + 3y + z &= 1 \\x - 4y - z &= 7\end{aligned}$$

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

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

$$a = : \boxed{\phantom{00}} \quad b = : \boxed{\phantom{00}} \quad c = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}} \quad e = : \boxed{\phantom{00}} \quad f = : \boxed{\phantom{00}}$$

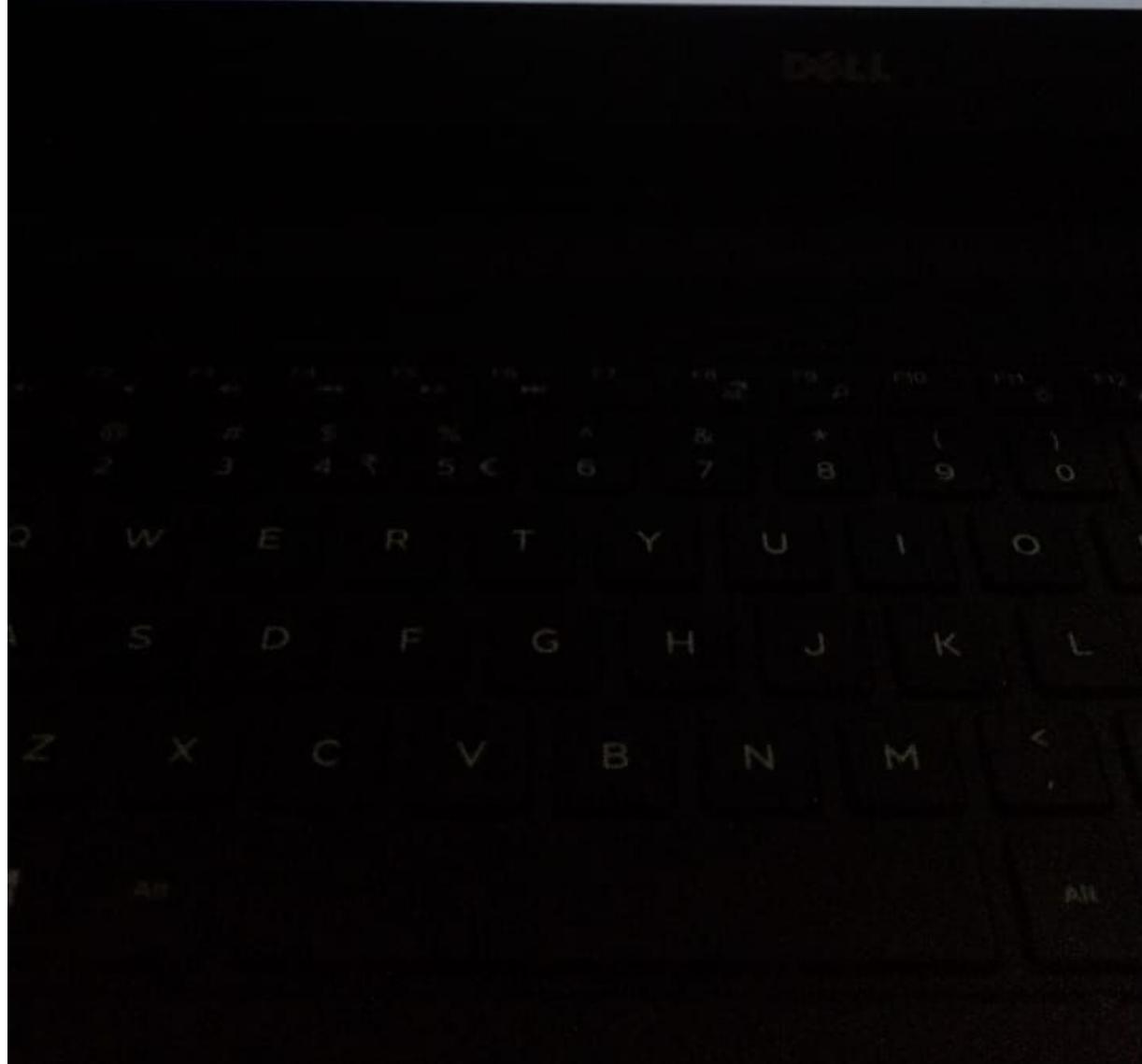
$$g = : \boxed{\phantom{00}} \quad h = : \boxed{\phantom{00}} \quad i = : \boxed{\phantom{00}}$$

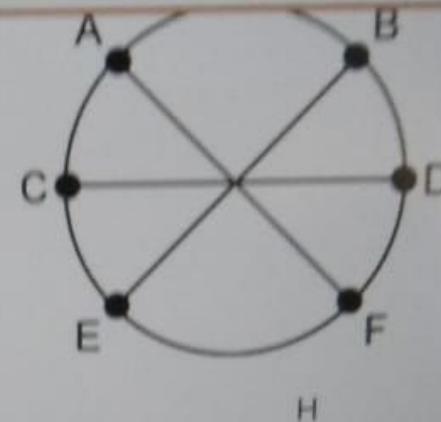
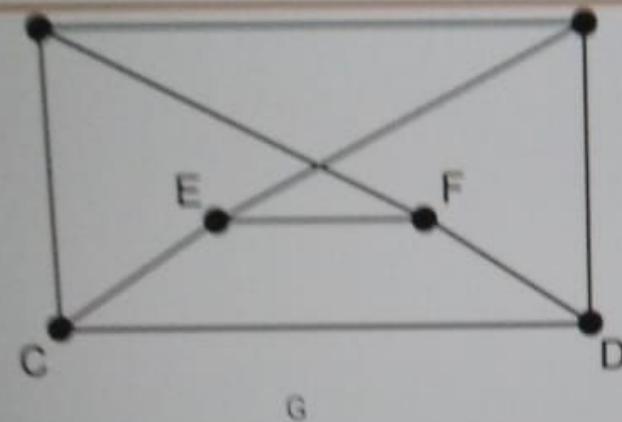
$$p = : \boxed{\phantom{00}}$$

$$q = : \boxed{\phantom{00}}$$

$$r = : \boxed{\phantom{00}}$$

b) Find the determinant of A. :





G

Number of Components

Number of Vertices

Number of Edges

Degree Sequence

, , , , , 

H

H

, , , , , 

Are they isomorphic?

G and H are

isomorphic

Not Isomorphic



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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 odd 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

← → × ⓘ ⓘ

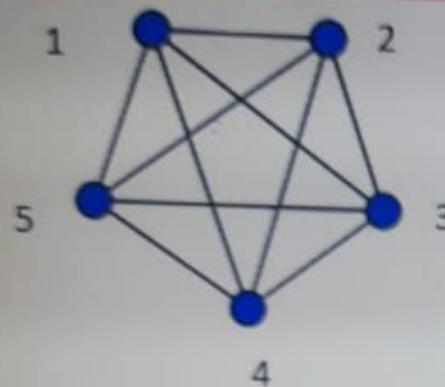
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1.00

Flag question

Finish attempt...

Time left 1:26:21

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



Euler Path =

- Yes
- No

Euler Circuit =

- Yes
- No

Hamilton Path =

- Yes
- No

Hamilton Circuit =

- Yes
- No

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.  $r'_2 = r_3 + r_2$

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

5.  $r'_2 = r_2 - 4r_3$

6.  $r'_2 = r_2 \times -\frac{1}{3}$

7.  $r'_1 = r_1 - 3r_3$

a =  b =  c =

d =  e =  f =

g =  h =  i =

j =  k =  l =

m =  n =  o =

p =  q =  r =

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

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Consider the following linear system of equations.

$$\begin{aligned}x - 2y + 3z &= 2 \\-2x + y - 2z &= 2 \\3x - 3y + 7z &= 2\end{aligned}$$

(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 =
- b =

Under the following row operations. Find the values of the resulting matrix, when the following row operations are applied in the given order:

1.  $R_1 \leftrightarrow R_2$

2.  $R_2 \rightarrow R_2 - 2R_1$

3.  $R_3 \rightarrow R_3 - 3R_1$

4.  $R_2 \rightarrow R_2 - R_3$

the reason (Number of the boolean identity used)

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

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

10/103

$$= A \cdot 1 + \bar{A}B + \bar{A}C \quad 3$$

$$= A(\bar{A} + 1) + \bar{A}B + \bar{A}C \quad 10$$

$$= A\bar{A} + A + \bar{A}B + \bar{A}C \quad 9$$

$$= \bar{A}(A + B + C) + A \quad 9$$

New Tab

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Obtain the truth table for the following expression.

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

A	B	C	$\bar{A}B$	$\bar{A}C$	$A + \bar{A}B + \bar{A}C$
0	0	0	0	0	0
0	0	1	0	1	1
0	1	0	1	0	1
0	1	1	1	1	1
1	0	0	0	0	1
1	0	1	0	0	1
1	1	0	0	0	1
1	1	1	0	0	1

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


$$C = \begin{bmatrix} a1 & a2 \\ a3 & a4 \end{bmatrix}$$

$|A| = : 40 \quad a2 = : -50 \quad \boxed{Q}$

$a1 = : 40 \quad a2 = : -50 \quad \checkmark$

$a3 = : -30 \quad a4 = : 35$

$$'(t) = -4 t^{-2} + \frac{1}{2} t^{-4} - 40 t^{-6}$$

① ②

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

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

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

$$= A \cdot 1 + \bar{A}B + \bar{A}C \quad 3$$

$$= A(\bar{A} + 1) + \bar{A}B + \bar{A}C \quad 10$$

$$= A\bar{A} + A + \bar{A}B + \bar{A}C \quad 9$$

$$= \bar{A}(A + B + C) + A \quad 9$$

New Tab

① ②



# NetExam

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Find the following definite integral.

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

Answer:





# NetExam

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6

answered

out of

question

To buy a computer system, a customer can choose one of 8 monitors, one of 8 keyboards, one of 9 computers and one of 4 printers.

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

Answer = :

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

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

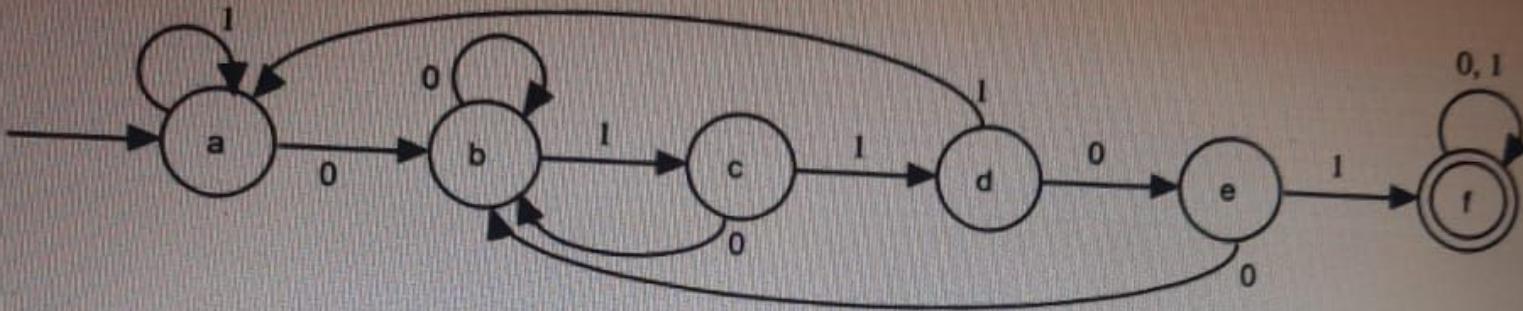
Answer = :

[Next page](#)



msi

Consider the following finite state Machine A.



What is the initial State?

To what state does A go if 1010111 input to A in sequence starting from the initial state?

Find  $N(d, 1)$

Find  $N(f, 0)$

Choose... ▾

Choose... ▾

Choose... ▾

Choose... ▾

≡ Quiz navigation

Finish attempt ...

Time left 1:59:45

1 2 3 4

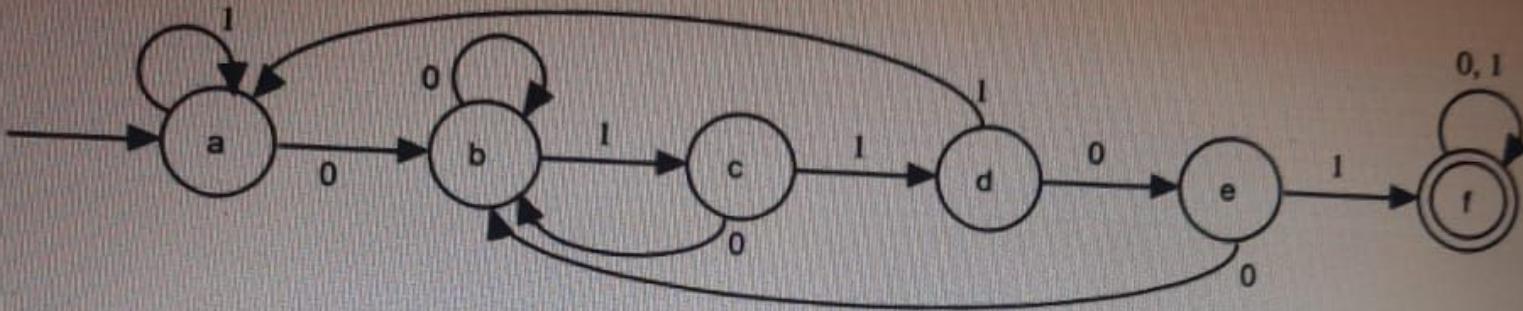
8 9 10 11

15 16 17 18

22

Next page

Consider the following finite state Machine A.



What is the initial State?

To what state does A go if 1010111 input to A in sequence starting from the initial state?

Find  $N(d, 1)$

Find  $N(f, 0)$

Choose... ▾

Choose... ▾

Choose... ▾

Choose... ▾

≡ Quiz navigation

Finish attempt ...

Time left 1:59:45

1 2 3 4

8 9 10 11

15 16 17 18

22

Next page



Question 10

Not yet answered

Marked out of  
1.00

Flag question

Consider the following linear system of equations.

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

$$3x - 2y + 3z = 0$$

$$2x - 3y + 2z = 5$$

(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  $Ax = b$ .

$$A = \begin{matrix} \boxed{\phantom{0}} & \boxed{\phantom{0}} & \boxed{\phantom{0}} \\ \boxed{\phantom{0}} & \boxed{\phantom{0}} & \boxed{\phantom{0}} \\ \boxed{\phantom{0}} & \boxed{\phantom{0}} & \boxed{\phantom{0}} \end{matrix}$$

$$b = \begin{matrix} \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \\ \boxed{\phantom{0}} \end{matrix}$$

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

### Quiz navigation

[Finish attempt ...](#)

Time left 0:35:55

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





Question 1

Not yet answered

Marked out of  
1.00

▼ Flag question

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



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

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

a = :

b = :

c = :

d = :

**Question 8**

Not yet answered

Marked out of  
1.00

Flag question

If  $|A| = 43$  then find the cofactor matrix of A.

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

 $C_{11}$   $C_{12}$   $C_{13}$   $C_{21}$   $C_{22}$   $C_{23}$   $C_{31}$

Consider the following linear system of equations.

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

$$3y + z = 2$$

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

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

$$\begin{bmatrix} a & b & c & p \\ d & e & f & q \\ g & h & i & r \end{bmatrix} \rightarrow \begin{bmatrix} a_1 & b_1 & c_1 & p_1 \\ d_1 & e_1 & f_1 & q_1 \\ g_1 & h_1 & i_1 & r_1 \end{bmatrix} \rightarrow \begin{bmatrix} a_2 & b_2 & c_2 & p_2 \\ d_2 & e_2 & f_2 & q_2 \\ g_2 & h_2 & i_2 & r_2 \end{bmatrix}$$

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

$$r'_3 = r_3 + r_2$$

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

$$b = : \quad b_1 = : \quad b_2 = :$$

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

$$d = : \quad d_1 = : \quad d_2 = :$$

$$e = : \quad e_1 = : \quad e_2 = :$$

$$f = : \quad f_1 = : \quad f_2 = :$$

$$g = : \quad g_1 = : \quad g_2 = :$$

$$h = : \quad h_1 = : \quad h_2 = :$$

$$i = : \quad i_1 = : \quad i_2 = :$$

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

$$q = : \quad q_1 = : \quad q_2 = :$$

$$r = : \quad r_1 = : \quad r_2 = :$$

SAMSUNG

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

$$a = : 2 : \quad b = : 1 : \quad c = : 6 :$$

$$d = : 4 : \quad e = : 3 : \quad f = : -3 :$$

$$g = : -1 : \quad h = : -3 : \quad i = : 2 :$$

$$|A_2| = : -18 :$$

$$y = : 3 :$$

d) Find z using the cramer's rule.

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

$$a = : 2 : \quad b = : 1 : \quad c = : 6 :$$

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

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

$$|A_3| = : 10 :$$

$$y = : 3 :$$

**Question 3**

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  $Ax = b$ .

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

$a = : \boxed{\phantom{00}}$   $b = : \boxed{\phantom{00}}$   $c = : \boxed{\phantom{00}}$

$d = : \boxed{\phantom{00}}$   $e = : \boxed{\phantom{00}}$   $f = : \boxed{\phantom{00}}$

$g = : \boxed{\phantom{00}}$   $h = : \boxed{\phantom{00}}$   $i = : \boxed{\phantom{00}}$

$p = : \boxed{\phantom{00}}$

$q = : \boxed{\phantom{00}}$

$r = : \boxed{\phantom{00}}$

- b) Find the determinant of A. :

- c) Find x using the cramer's rule.

$$|A_1| . \begin{bmatrix} a & b & c \\ x & \dots & \dots \\ \dots & \dots & c \end{bmatrix}$$

Quiz navigation

[Finish attempt ...](#)

Time left 1:42:01

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

**Question 3**

Not yet answered

Marked out of  
1.00

Flag question

Consider the following linear system of equations.

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

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

$$3x + y - z = 8$$

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

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

$$a = : \boxed{\phantom{00}} \quad b = : \boxed{\phantom{00}} \quad c = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}} \quad e = : \boxed{\phantom{00}} \quad f = : \boxed{\phantom{00}}$$

$$g = : \boxed{\phantom{00}} \quad h = : \boxed{\phantom{00}} \quad i = : \boxed{\phantom{00}}$$

$$p = : \boxed{\phantom{00}}$$

$$q = : \boxed{\phantom{00}}$$

$$r = : \boxed{\phantom{00}}$$

b) Find the determinant of A. :

c) Find x using the cramer's rule.

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

$$a = : \boxed{\phantom{00}} \quad b = : \boxed{\phantom{00}} \quad c = : \boxed{\phantom{00}}$$

Quiz navigation

[Finish attempt ...](#)

Time left 1:40:22

1	2	3	4
9	10	11	12
17	18	19	20
21	22	23	24

A	B	C	$\bar{A}B$	$\bar{A}C$	$A + \bar{A}B + \bar{A}C$
0	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	1	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	1	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	0	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	0	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	1	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	1	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

b) Simplify the above expression (D) using the following boolean identities. In each step write down the reason (Number of 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

**Question 6**

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)

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = \boxed{\phantom{0}}$$

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = 1$$

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

$$Ax = b$$

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

$$p = : \boxed{\phantom{0}} \quad q = : \boxed{\phantom{0}}$$

$$r = : \boxed{\phantom{0}} \quad s = : \boxed{\phantom{0}}$$

$$c = : \boxed{\phantom{0}}$$

$$d = : \boxed{\phantom{0}}$$

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

$$C = \begin{bmatrix} a_1 & a_2 \\ a_3 & a_4 \end{bmatrix}$$

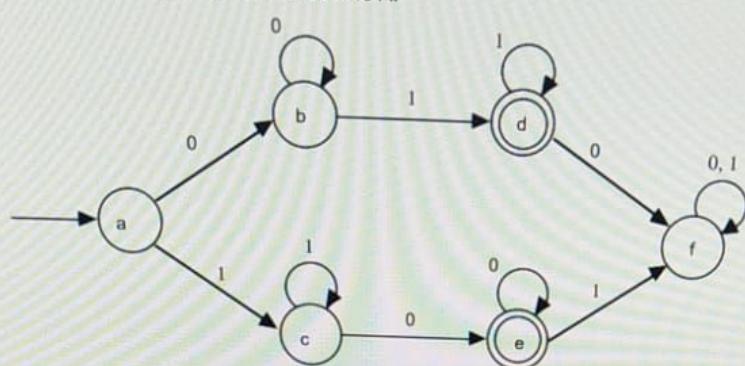
X



# NetExam

Sri Lanka Institute of Information Technology

Consider the following finite state Machine A.



What is the initial State?

Choose... ▾

To what state does A go if 1000111 input to A in sequence starting from the initial state?

Choose... ▾

Find  $N(d, 1)$

Choose... ▾

Find  $N(f, 0)$

Choose... ▾

F12



PRINT SCREEN



SCROLL LOCK



PAUSE BREAK



HYPERX™



NUMLOCK



/

7

8

9

\*

ESCAPE



INS



HOME



PAGEUP



PAGEDOWN



END



DEL



1.00

Flag question

$$\begin{aligned}2x + y + z &= 7 \\3x - y + 2z &= 7\end{aligned}$$

(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  $Ax = b$ .

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

$$b = \begin{bmatrix} 2 \\ 7 \\ 7 \end{bmatrix}$$

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

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

$$\begin{bmatrix} a & b & c & j & k & l \end{bmatrix}$$

Consider the following function.

$$f(x) = x^4 - x^2 + 20$$

1. Find  $f'(-4)$  :

2. Find the definite integral of  $f(x)$  from -3 to 3 :  |   
(Round your answer to one decimal place)





## Question 10

Not yet answered

Marked out of  
1.00

Flag question

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 3

Not yet answered

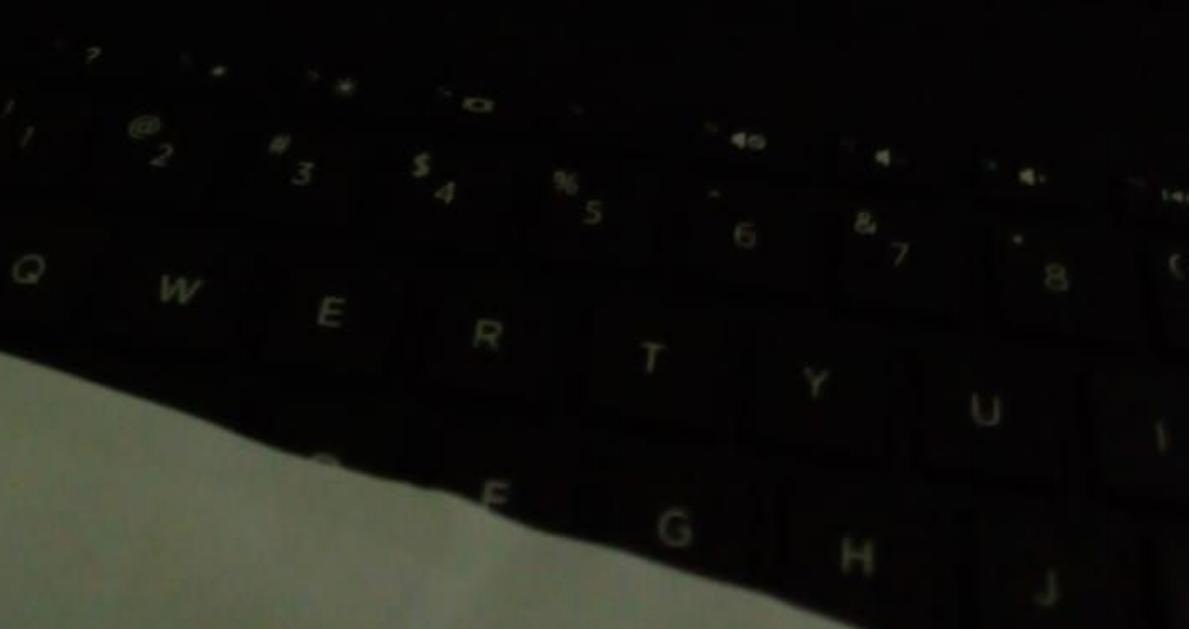
Marked out of  
1.00

Flag question

Find the following definite integral.

(If your answer is not an integer, then write it as a quotient)

$$\int_1^4 \frac{8}{\sqrt{t}} - 12\sqrt{t^3} dt = \boxed{-664/5}$$



To buy a computer system, a customer can choose one of 5 monitors, one of 8 keyboards, one of 7 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 monitor or 2 keyboards or a computer.

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

Answer = :

[Next page](#)

☰

Finish

Time

1

11

21

2

Consider the function  $f: R \rightarrow R$     $f(x) = x^2 + 6$

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?

- $f^{-1}(X) = (X-6)^{(1/2)}$
- $f^{-1}(X) = 1/(x-6)^{1/2}$
- $f^{-1}(X) = (X-6)^2$
- Does not exist



on 11  
et answered  
ed out of  
flag 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 = :

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

$$C = \begin{bmatrix} a1 & a2 \\ a3 & a4 \end{bmatrix}$$

$$a1 = : \boxed{\phantom{00}} \quad a2 = : \boxed{\phantom{00}}$$

$$a3 = : \boxed{\phantom{00}} \quad a4 = : \boxed{\phantom{00}}$$

c) Find the determinant of A. :

d) Find the adjoint of A.

$$adj\ A = \begin{bmatrix} p & q \\ r & s \end{bmatrix}$$

$$p = : \boxed{\phantom{00}} \quad q = : \boxed{\phantom{00}}$$

$$r = : \boxed{\phantom{00}} \quad s = : \boxed{\phantom{00}}$$

d) Find the inverse of A and hence find price of an adult ticket and

Cost of an adult ticket = :

Cost of a child ticket = :

6

Answered  
out of  
question

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 = :

Acer

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

$$f: N \rightarrow N \quad f(n) = n^2$$

Is  $f$  a One to one function?

Yes

Is  $f$  an onto function?

Choose... 

Does  $f$  has an inverse function?

Choose... 



elementary row operations are applied in the given order.

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

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

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

$$3. r'_2 = r_2 \times \frac{-1}{3}$$

$$4. r'_3 = r_3 + 7r_2$$

$$5. r'_3 = r_3 \times \frac{-1}{2}$$

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

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

$$g = 0 \quad h = -7 \quad i =$$

$$j = 1 \quad k = \quad l =$$

$$m = \quad n = \quad o =$$

$$p = \quad q = \quad r =$$

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

# NetExam

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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 :

msi

Moodle



NetExam

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Question 1

Not yet answered

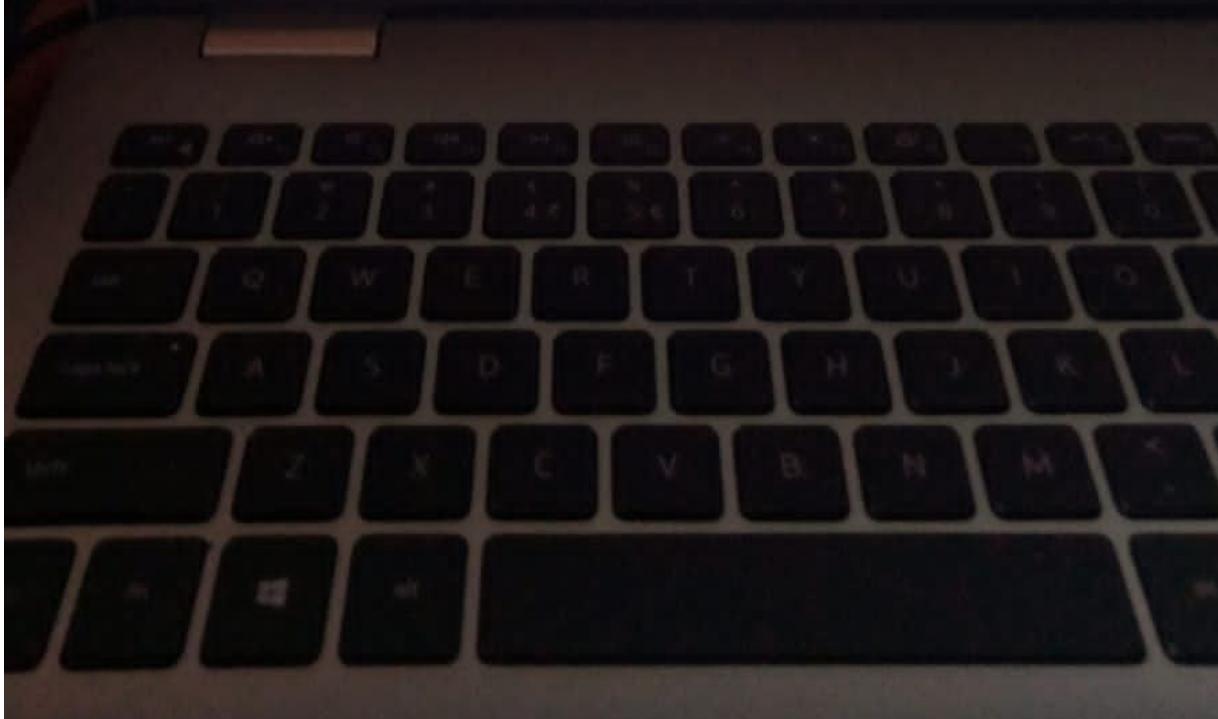
Marked out of  
1.00

Flag question

Find the following definite integral.

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

Answer: 18



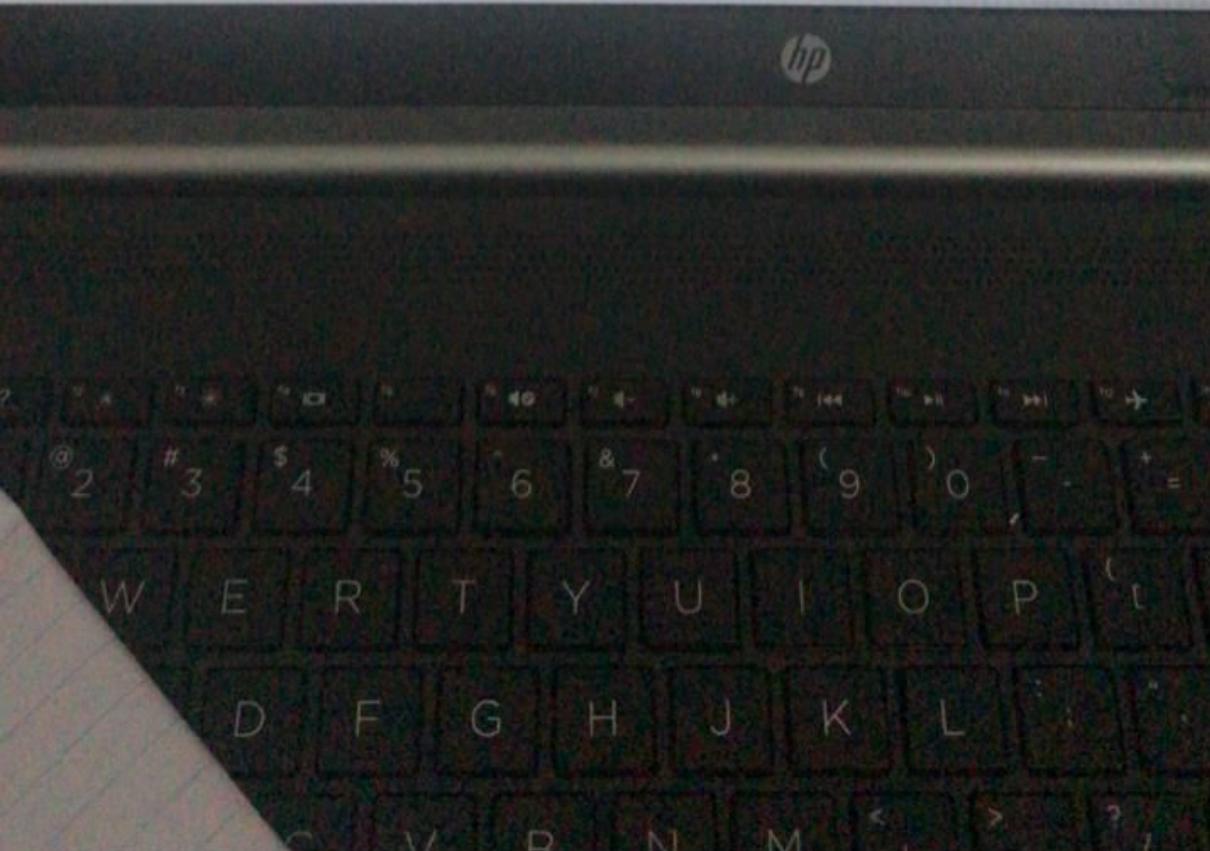
NetExam  
Sri Lanka Institute of Information Technology

To buy a computer system, a customer can choose one of 5 monitors, one of 8 keyboards, one of 7 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 2 monitors and 2 keyboards and a computer.  
Find the possible ways of choosing monitor, keyboard and computer.  
Answer = :

[Next Page](#)





x



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

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

$$1. r'_2 = r_2 - 3r_1$$

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

$$3. r'_3 = r_3 - \frac{1}{4}r_2$$

$$4. r'_3 = r_3 \times \frac{2}{5}$$

$$5. r'_2 = r_2 - 6r_3$$

$$6. r'_2 = r_2 \times \frac{1}{4}$$

$$7. r'_1 = r_1 + r_3$$

$$a = \boxed{\phantom{000}} \quad b = \boxed{\phantom{000}} \quad c = \boxed{\phantom{000}}$$

$$d = \boxed{\phantom{000}} \quad e = \boxed{\phantom{000}} \quad f = \boxed{\phantom{000}}$$

$$g = \boxed{\phantom{000}} \quad h = \boxed{\phantom{000}} \quad i = \boxed{\phantom{000}}$$

$$j = \boxed{\phantom{000}} \quad k = \boxed{\phantom{000}} \quad l = \boxed{\phantom{000}}$$

$$m = \boxed{\phantom{000}} \quad n = \boxed{\phantom{000}} \quad o = \boxed{\phantom{000}}$$

$$p = \boxed{\phantom{000}} \quad q = \boxed{\phantom{000}} \quad r = \boxed{\phantom{000}}$$

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

$$\begin{pmatrix} a & b & c \end{pmatrix}$$

	1	2	3	4	5
1	a	b	c	d	e
2	f	g	h	i	j
3	k	l	m	n	o
4	p	q	r	s	t
5	u	v	w	x	y

a = :  b = :  c = :  d = :  e = :  5  
 f = :  1 g = :  0 h = :  1 i = :  1 j = :  1  
 k = :  1 l = :  2 m = :  0 n = :  1 o = :  1  
 p = :  1 q = :  1 r = :  1 s = :  0 t = :  1  
 u = :  1 v = :  1 w = :  1 x = :  1 y = :  0

c) Degree sequence of a graph is 6, 5, 4, 3, 3, 2, 2, 1, 1, 1.

Does this graph exist?

Yes

No



Number of Edges of the above graph = :  14

Does it has an Euler path?

Yes

No

Does it has an Euler circuit?

Yes

No



Question 3

Not yet answered

Marked out of  
0.00

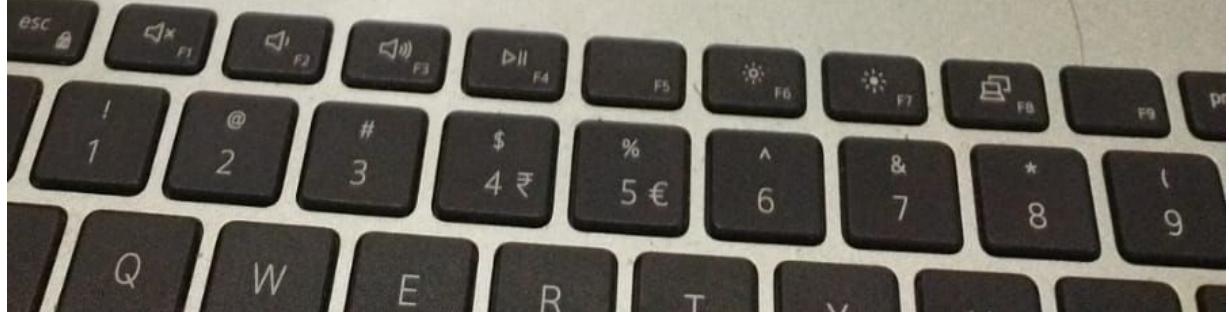
Flag question

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 :



Moodle

→ X | i | +

 NetExam  
Sri Lanka Institute of Information Technology

Question 2  
Not yet answered  
Marked out of 0  
Flag question

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

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

Is  $f$  a One to one function? Choose... ▾

Is  $f$  an onto function? Choose... ▾

Does  $f$  has an inverse function? Choose... ▾

## NetExam

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To buy a computer system, a customer can choose one of 7 monitors, one of 6 keyboards, one of 5 computers and one of 3 printers.

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

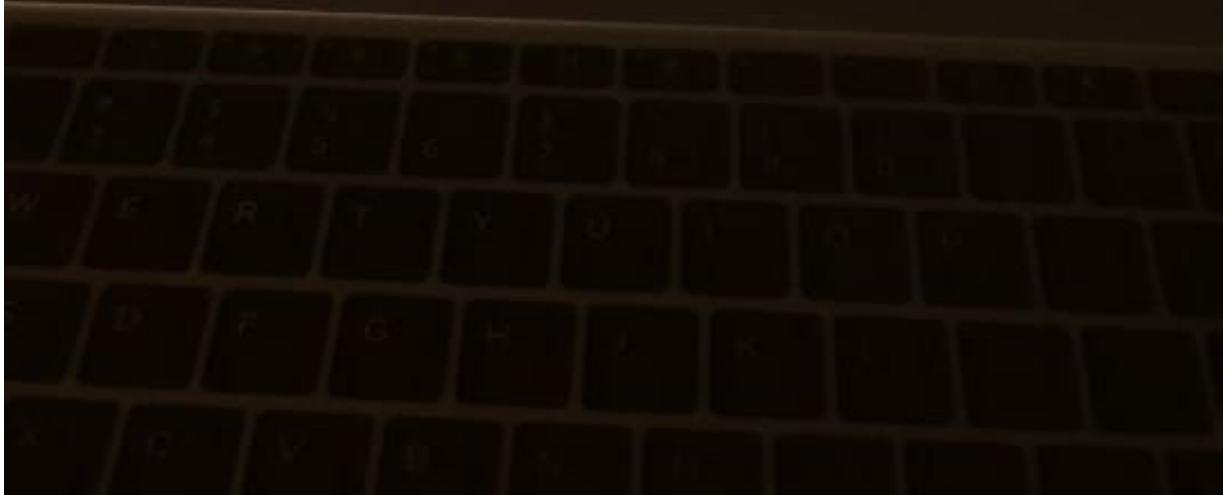
Answer =

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

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

Answer =

[Next page](#)



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

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

$C_{11}$  Choose... ▾

$C_{12}$  Choose... ▾

$C_{13}$  Choose... ▾

$C_{21}$  Choose... ▾



$C_{22}$  Choose... ▾

$C_{23}$  Choose... ▾

$C_{31}$  Choose... ▾

$C_{32}$  Choose... ▾

$C_{33}$  Choose... ▾

Question 3

Not yet answered

Marked out of

1.00

Flag question

If  $|A| = 128$  then find the cofactor matrix of A.

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

$C_{11}$

Choose... ▾

$C_{12}$

Choose... ↗

Choose...

8

40

24

-4

23

10

-8

-14

14

-23

-10

41

-40

4

15

$C_{13}$

$C_{21}$

$C_{22}$

$C_{23}$

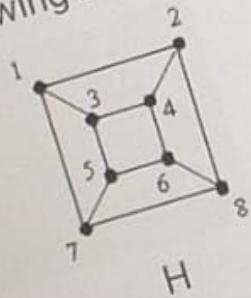
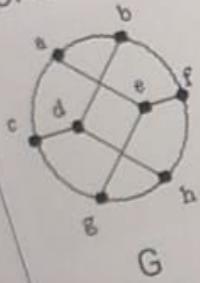
$C_{31}$

Choose... ▾

Choose... ▾

Maths

Consider the following 2 graphs.



Number of Components

Number of Vertices

Number of Edges

Degree Sequence

G

Are they isomorphic?

G and H are

- isomorphic
- Not Isomorphic



Question 1

Not yet answered

Marked out of

.00

Flag question

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:

**Question 1**

Not yet answered

Marked out of

0

Flag question

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

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



Answered  
out of  
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)

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = \boxed{\phantom{0}}$$



$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = 1$$

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

$$Ax = b$$

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

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

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

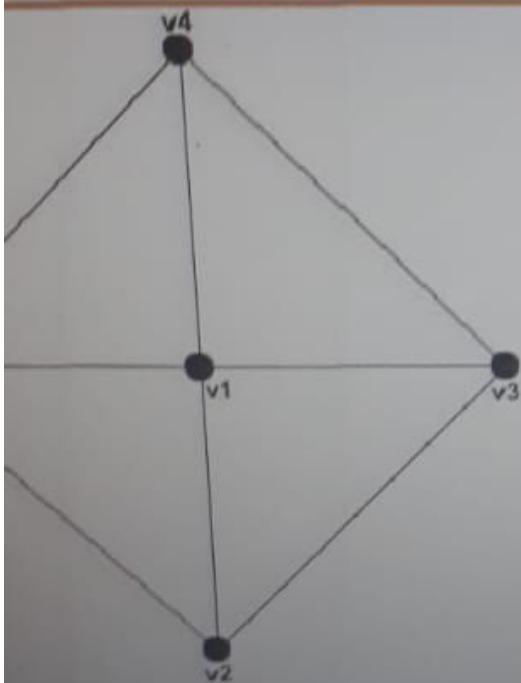
≡ Quiz navigation

Finish attempt ...

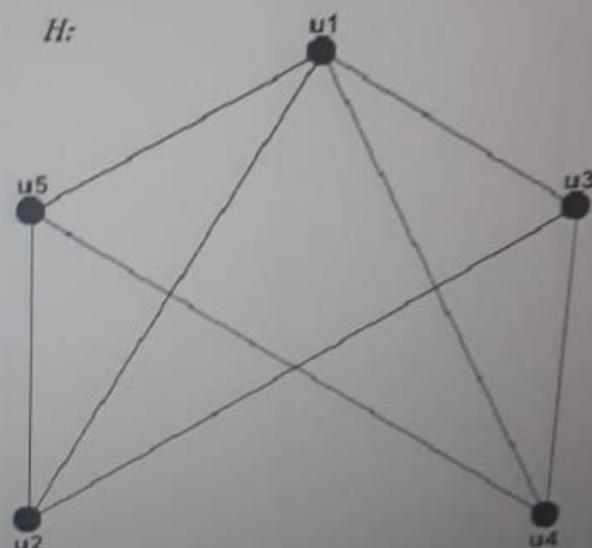
Time left 0:30:51

1	2	3	4
8	9	10	11
15	16	17	18
22			

Activity Window  
Content



$G$



$H$

of Components

of Vertices

of Edges

Sequence

any isomorphic?

if any

$$\begin{pmatrix} 1 & -2 & 3 & 2 & -3 & 4 \\ 2 & 1 & 3 & -2 & -1 & -3 \\ 3 & 2 & -1 & 1 & 1 & 3 \\ 4 & -3 & 1 & -1 & 1 & -2 \end{pmatrix} = \begin{pmatrix} 0 & 4 & 5 & 0 & 0 & 0 \\ 0 & 0 & 0 & 5 & 0 & 0 \\ 0 & 0 & 0 & 0 & 5 & 0 \\ 0 & 0 & 0 & 0 & 0 & 5 \end{pmatrix}$$

$$z = 1$$

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

$$f: N \rightarrow N \quad f(n) = n^2$$

Is f a One to one function?

Choose... ▾

Is f an onto function?

Choose... ▾

Does f has an inverse function?

Choose... ▾

Choose...

No

Yes





Not yet answered

Marked out of  
1.00 Flag question

Consider the following linear system of equations.

$$\begin{aligned}x + y + 2z &= 3 \\3x + 2y - z &= -1 \\-2x - y + z &= 2\end{aligned}$$

(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  $Ax = b$ .

$$A = \begin{bmatrix} \square & \square & \square \\ \square & \square & \square \\ \square & \square & \square \end{bmatrix}$$

$$b = \begin{bmatrix} \square \\ \square \\ \square \end{bmatrix}$$

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

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

$$1. r'_2 = r_2 - 3r_1$$

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

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

1

### Quiz navigation

[Finish attempt ...](#)

Time left 0:40:45

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

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 form.

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

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

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

$$r'_3 = r_3 + r_2$$

$$a = : \boxed{\phantom{00}} \quad a_1 = : \boxed{\phantom{00}} \quad a_2 = : \boxed{\phantom{00}} \quad a_3 = : \boxed{\phantom{00}}$$

$$b = : \boxed{\phantom{00}} \quad b_1 = : \boxed{\phantom{00}} \quad b_2 = : \boxed{\phantom{00}} \quad b_3 = : \boxed{\phantom{00}}$$

$$c = : \boxed{\phantom{00}} \quad c_1 = : \boxed{\phantom{00}} \quad c_2 = : \boxed{\phantom{00}} \quad c_3 = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}} \quad d_1 = : \boxed{\phantom{00}} \quad d_2 = : \boxed{\phantom{00}} \quad d_3 = : \boxed{\phantom{00}}$$

$$e = : \boxed{\phantom{00}} \quad e_1 = : \boxed{\phantom{00}} \quad e_2 = : \boxed{\phantom{00}} \quad e_3 = : \boxed{\phantom{00}}$$

$$f = : \boxed{\phantom{00}} \quad f_1 = : \boxed{\phantom{00}} \quad f_2 = : \boxed{\phantom{00}} \quad f_3 = : \boxed{\phantom{00}}$$

$$g = : \boxed{\phantom{00}} \quad g_1 = : \boxed{\phantom{00}} \quad g_2 = : \boxed{\phantom{00}} \quad g_3 = : \boxed{\phantom{00}}$$

$$h = : \boxed{\phantom{00}} \quad h_1 = : \boxed{\phantom{00}} \quad h_2 = : \boxed{\phantom{00}} \quad h_3 = : \boxed{\phantom{00}}$$

$$i = : \boxed{\phantom{00}} \quad i_1 = : \boxed{\phantom{00}} \quad i_2 = : \boxed{\phantom{00}} \quad i_3 = : \boxed{\phantom{00}}$$

$$p = : \boxed{\phantom{00}} \quad p_1 = : \boxed{\phantom{00}} \quad p_2 = : \boxed{\phantom{00}} \quad p_3 = : \boxed{\phantom{00}}$$

$$q = : \boxed{\phantom{00}} \quad q_1 = : \boxed{\phantom{00}} \quad q_2 = : \boxed{\phantom{00}} \quad q_3 = : \boxed{\phantom{00}}$$

$$r = : \boxed{\phantom{00}} \quad r_1 = : \boxed{\phantom{00}} \quad r_2 = : \boxed{\phantom{00}} \quad r_3 = : \boxed{\phantom{00}}$$

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,

$$\boxed{\phantom{0}} *X + \boxed{\phantom{0}} *Y + \boxed{\phantom{0}} *Z = \boxed{\phantom{0}}$$

From row 2,

$$\boxed{\phantom{0}} *X + \boxed{\phantom{0}} *Y + \boxed{\phantom{0}} *Z = \boxed{\phantom{0}}$$

From row 1,

$$\boxed{\phantom{0}} *X + \boxed{\phantom{0}} *Y + \boxed{\phantom{0}} *Z = \boxed{\phantom{0}}$$

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

$$X = : \boxed{\phantom{0}}$$

$$Y = : \boxed{\phantom{0}}$$

$$Z = : \boxed{\phantom{0}}$$

Next page

Activity Worksheet  
Solve Systems of Equations



Question 1

Not yet answered

Marked out of  
1.00

Flag question

$$\text{Let } A = \begin{bmatrix} 0 & 1 \\ -1 & 5 \end{bmatrix}$$

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

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

$$a = : \boxed{1}$$

$$b = : \boxed{2}$$

$$c = : \boxed{-2}$$

$$d = : \boxed{11|}$$



Moodle

Sri Lanka Institute of Information Technology

Consider the following linear system of equations.

$$\begin{aligned}x - 2y + 3z &= 2 \\-2x + y - 2z &= 2 \\3x - 3y + 7z &= 2\end{aligned}$$

Question 4  
Not yet answered  
Marked out of  
1.00  
Flag question

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))

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

$A =$

$b =$

9) Consider the following elementary row operations are applied in the given order:

$R_1 \rightarrow R_1 - R_2$ ,  $R_1 \rightarrow R_1 - R_3$ ,  $R_2 \rightarrow R_2 - R_3$

Find the values of the resulting matrix when the following

ed  
on

$$f(x) = \frac{x^2 + 1}{5x - 3}$$

Find  $f'(-1)$ .

Hint : Differentiate the function and Substitute -1.

(Write your answer as a fraction. Eg: 23/2

No spaces should be in the answer)

Answer:



**NetExam**  
Sri Lanka Institute of Information Technology

Consider the following linear system of equations.

$$\begin{aligned} x - 2y + z &= 0 \\ 2x + 3y - 4z &= -4 \\ 3x - 13y + 4z &= -11 \end{aligned}$$

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

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

$$r'_2 = r_2 - 2r_1 \quad r'_3 = r_3 - 3r_1 \quad r'_3 = r_3 + r_2$$

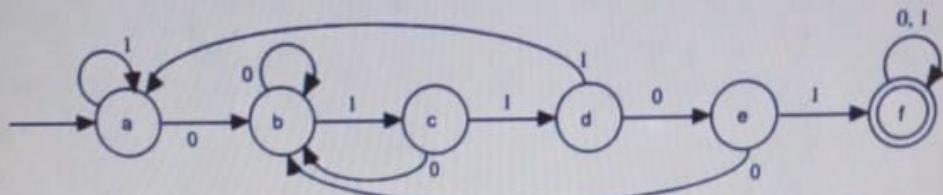
a = :  a1 = :  a2 = :  a3 = :   
 b = :  b1 = :  b2 = :  b3 = :   
 c = :  c1 = :  c2 = :  c3 = :   
 d = :  d1 = :  d2 = :  d3 = :   
 e = :  e1 = :  e2 = :  e3 = :   
 f = :  f1 = :  f2 = :  f3 = :





Question 2  
Not answered  
0 out of 0  
Flag question

Consider the following finite state Machine A.



What is the initial State?

To what state does A go if 1010111 input to A in sequence starting from the initial state?

Find  $N(d, 1)$

Find  $N(f, 0)$

Choose...  
Choose...

- d
- c
- b
- a
- f
- e

Next page

Answers at bottom

$$+ \begin{pmatrix} a & b \\ c & d \end{pmatrix} = \underline{\underline{A^2}}$$

Answers

$$A^{-1} = \begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$



Question 7

Not yet answered

Marked out of  
0

Flag question

$$f(x) = \left(\frac{x-1}{x+3}\right)^3$$

Find  $f'(-1)$ .

Hint : Differentiate the function and Substitute -1.

Answer:



Next p

# NetExam

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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 = :

c = :

d = :

e = :



Module

→ X | i | +

on 3  
answered  
out of  
question

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

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 = :

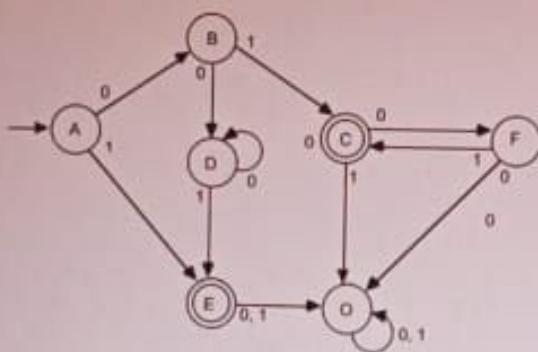
i = :



NetExam

Sri Lanka Institute of Information Technology

Consider the following finite state Machine A.



What is the initial State?

Choose... ▾

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

Choose... ▾

Find  $N(C, 1)$

Choose... ▾

Find  $N(F, 0)$

Choose... ▾

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

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

$$a = \boxed{\phantom{000}} \quad b = \boxed{\phantom{000}} \quad c = \boxed{\phantom{000}}$$

$$d = \boxed{\phantom{000}} \quad e = \boxed{\phantom{000}} \quad f = \boxed{\phantom{000}}$$

$$g = \boxed{\phantom{000}} \quad h = \boxed{\phantom{000}} \quad i = \boxed{\phantom{000}}$$

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

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

$$a = \boxed{\phantom{000}} \quad b = \boxed{\phantom{000}} \quad c = \boxed{\phantom{000}}$$

$$d = \boxed{\phantom{000}} \quad e = \boxed{\phantom{000}} \quad f = \boxed{\phantom{000}}$$

$$g = \boxed{\phantom{000}} \quad h = \boxed{\phantom{000}} \quad i = \boxed{\phantom{000}}$$

$$p = \boxed{\phantom{000}} \quad q = \boxed{\phantom{000}} \quad r = \boxed{\phantom{000}}$$

$$x =$$

$$y =$$

**Question 12**

Not yet answered

Marked out of  
1.00

Flag question

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  $Ax = b$ .

$$A = \begin{matrix} & & \\ \boxed{\phantom{0}} & \boxed{\phantom{0}} & \boxed{\phantom{0}} \\ & & \end{matrix}$$
  
$$\boxed{\phantom{0}} \quad \boxed{\phantom{0}} \quad \boxed{\phantom{0}} \\ I \\ \boxed{\phantom{0}} \quad \boxed{\phantom{0}} \quad \boxed{\phantom{0}}$$

$$b =$$

**Question 12**

Not yet answered

Marked out of  
1.00

Flag question

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  $Ax = b$ .

$$A = \begin{matrix} & & \\ \boxed{\phantom{0}} & \boxed{\phantom{0}} & \boxed{\phantom{0}} \\ & & \end{matrix}$$
  
$$\quad\quad\quad I$$
  
$$\begin{matrix} & & \\ \boxed{\phantom{0}} & \boxed{\phantom{0}} & \boxed{\phantom{0}} \\ & & \end{matrix}$$

$$b =$$

on 4  
1st answered  
1 out of  
ing question

Consider the following 2 graphs.

a) A

b) H

G

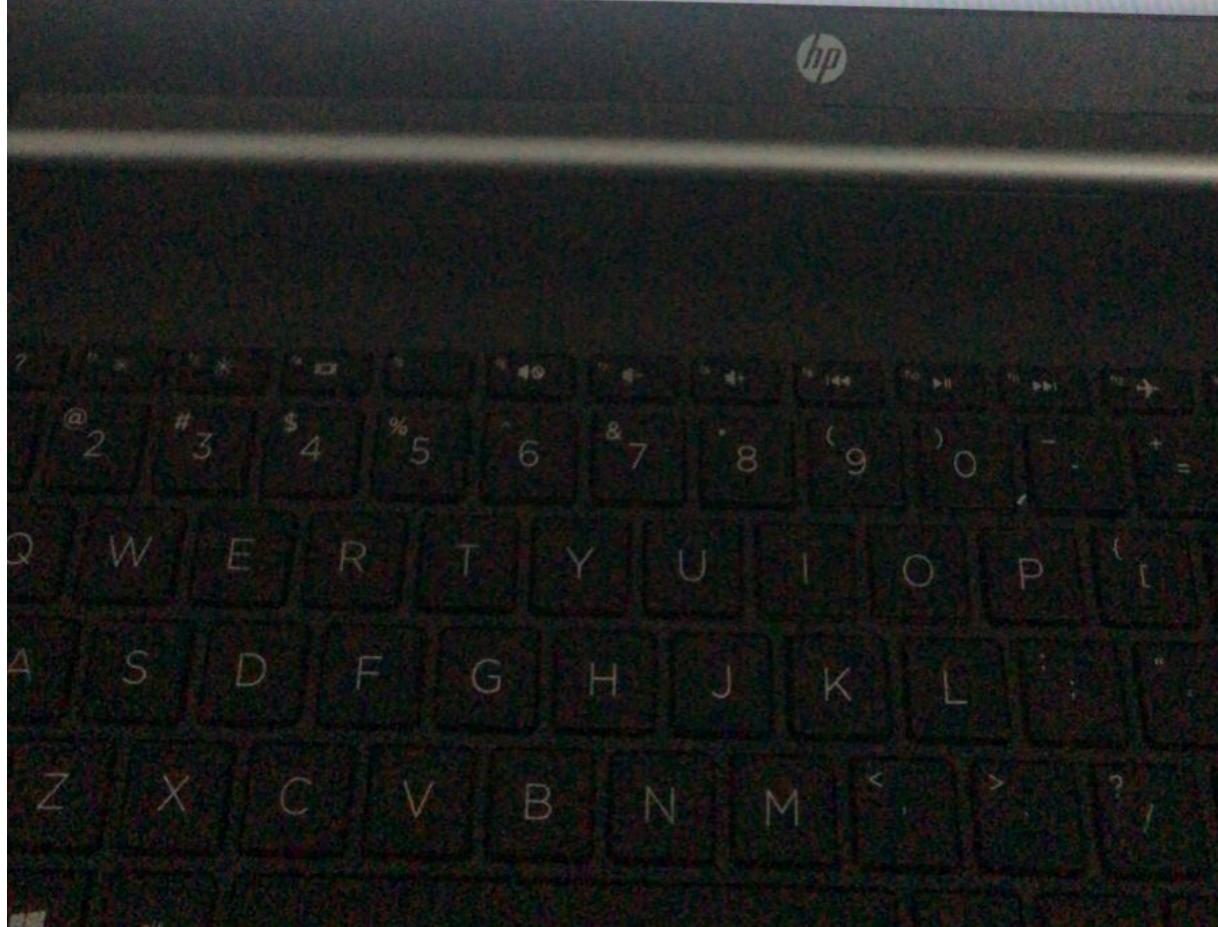
H

Number of Components	<input type="text"/>
Number of Vertices	<input type="text"/>
Number of Edges	<input type="text"/>
Degree Sequence	<input type="text"/>

Are they isomorphic?

G and H are

Isomorphic  
 Not isomorphic



n 1

answered  
d out of

g question

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

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



# NetExam

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it2

**Question 6**

Not yet answered

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1.00

Flag question

$$f(x) = \left(\frac{x-1}{x+3}\right)^3$$

Find  $f'(-1)$ .

Hint : Differentiate the function and Substitute -1.

Answer:

Next page



≡ Q

Finish

Time

1

8

15

22

b) Simplify the above expression (D) using the following boolean step write down the reason (Number of the boolean identity acco 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
  7. Distributive Law
  8. De Morgan's Law
  9. Absorption Law
  10. Inverse Law

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

$$= A_1 1 + \bar{A}B + \bar{A}C$$

$$= A(\bar{A} + 1) + \bar{A}B + \bar{A}C$$

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

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

# NetExam

Sri Lanka Institute of Information Technology

Find the derivative of the following function.

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

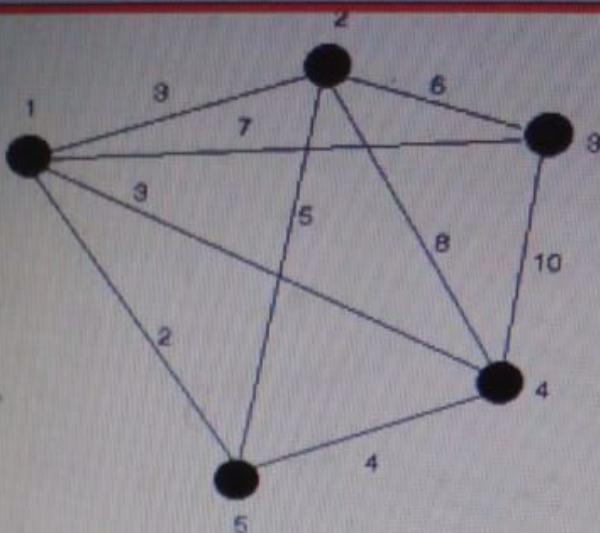
$$f(y) = \frac{y^5 - 5y^3 + 2y}{y^3}$$

$$f'(y) = \boxed{\phantom{0}} y - \boxed{\phantom{0}} y^{\boxed{\phantom{0}}}$$

Marked out of

1.00

Flag question



Euler Path =

Yes

No

Euler Circuit =

Yes

No

Hamilton Path =

Yes

No



Hamilton Circuit =

Yes

No

Question 2

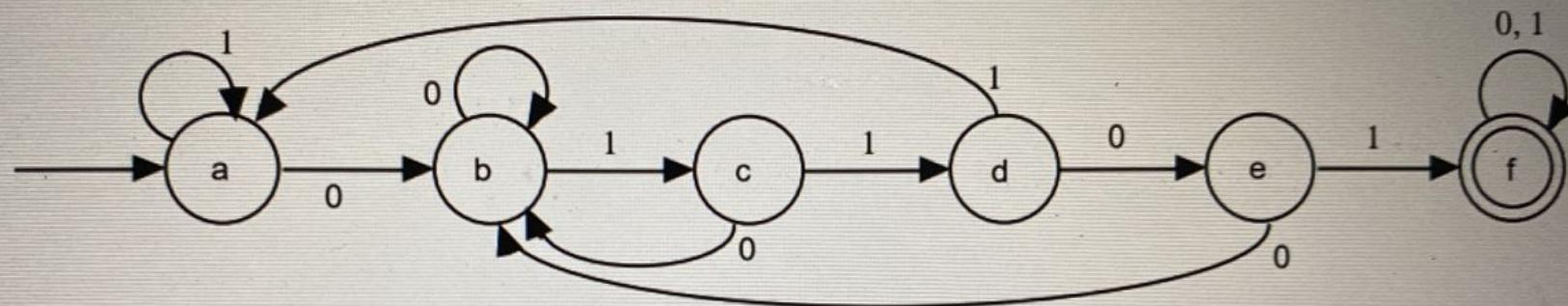
Not yet answered

Marked out of

0

Flag question

Consider the following finite state Machine A.



What is the initial State?

Choose... ▾

To what state does A go if 1010111 input to A in sequence starting from the initial state?

Choose... ▾

Find  $N(d, 1)$

Choose... ▾

Find  $N(f, 0)$

Choose... ▾

- a
- d
- e
- c
- b
- f

Page

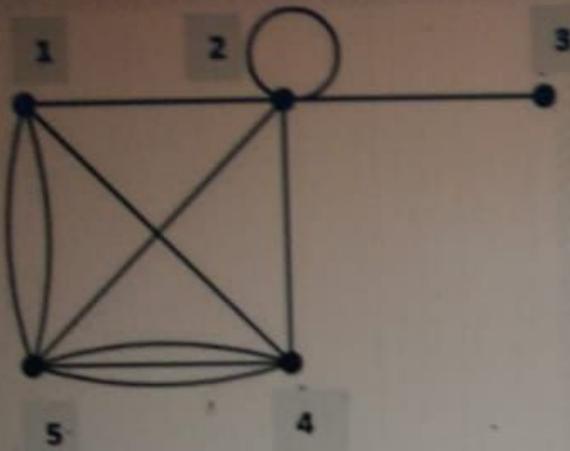
Question 1

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

No



Euler Circuit =

Yes

No

Hamilton Path =

Yes

≡ Quiz

Finish atm

Time left:

1 2

3 4

15 16

22

Question 2

Not yet answered

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1.00

Flag question

$$\text{Let } A = \begin{bmatrix} 0 & 1 \\ -1 & 5 \end{bmatrix}$$

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

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

$$a = :$$

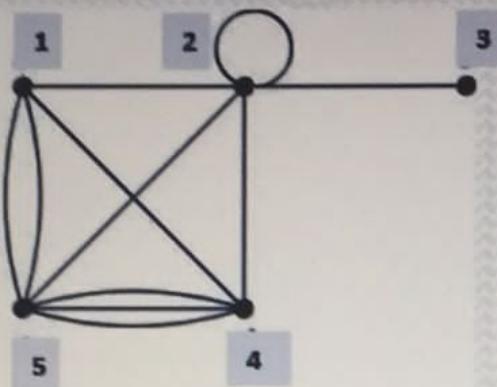
$$b = :$$

$$c = :$$

$$d = :$$

**Question 2**

Not yet answered

Marked out of  
1.00 Flag question**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



# NetExam

Sri Lanka Institute of Information Technology

Find the following definite integral.

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

$$\int_1^6 12x^3 - 9x^2 + 2 \, dx = \boxed{\quad}$$





# NetExam

Sri Lanka Institute of Information Technology

Find the following definite integral.

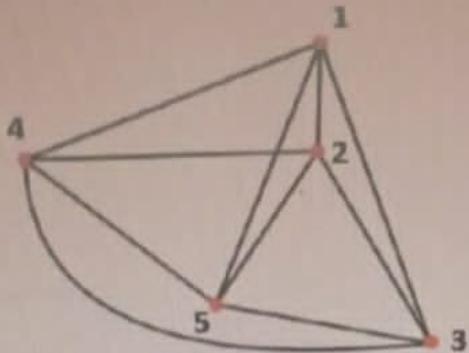
(If your answer is not an integer, then write it as a quotient (eg: 2/5))

$$\int_1^6 12x^3 - 9x^2 + 2 \, dx = \boxed{\quad}$$



Ques 3  
answered  
of 4  
of question

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



Euler Path =

- Yes  
 No

Euler Circuit =

- Yes  
 No

Hamilton Path =

- Yes  
 No

**Equivalent Binary Number (x) =** 1110101100110

**Equivalent Octal Number (y) =**

Equivalent Hexadecimal Number (z) = 1D66

b) Find:

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

$$2's \text{ Complement of } x (x') = 0001010011010$$

8's Complement of y = 61232

16's Complement of z = E299

c) Fill in the blanks.

i)  $10001001 + 11101001 = 101110010$  (Write your answer with 9 digits)

ii)  $11101001 - 10001001 = 111000$  (Write your answer with 6 digits)

iii)  $11101001 \times 1000 = 01110100100$  (Write your answer with 11 digits)

iv)  $11101001 \div 110$

Quotient = 0100110 (Write your answer with 6 digits)

Remainder =  (Write your answer with 3 digits)

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

	1	2	3	4	5
1	a	b	c	d	e
2	f	g	h	i	j
3	k	l	m	n	o
4	p	q	r	s	t
5	u	v	w	x	y

$$\begin{aligned}
 a &= : \boxed{\quad} & b &= : \boxed{\quad} & c &= : \boxed{\quad} & d &= : \boxed{\quad} & e &= : \boxed{\quad} \\
 f &= : \boxed{\quad} & g &= : \boxed{\quad} & h &= : \boxed{\quad} & i &= : \boxed{\quad} & j &= : \boxed{\quad} \\
 k &= : \boxed{\quad} & l &= : \boxed{\quad} & m &= : \boxed{\quad} & n &= : \boxed{\quad} & o &= : \boxed{\quad} \\
 p &= : \boxed{\quad} & q &= : \boxed{\quad} & r &= : \boxed{\quad} & s &= : \boxed{\quad} & t &= : \boxed{\quad} \\
 u &= : \boxed{\quad} & v &= : \boxed{\quad} & w &= : \boxed{\quad} & x &= : \boxed{\quad} & y &= : \boxed{\quad}
 \end{aligned}$$

c) Degree sequence of a graph is 5, 4, 4, 3, 3, 2, 2, 1, 1, 1.  
Does this graph exist?

Yes

No

Number of Edges of the above graph = :

$$x - \frac{1}{4}e + \frac{1}{4}e = \frac{1}{4}e(e+1) \quad \text{if}$$

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

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

$$3y + z + 0x = 2$$

$$0x + 3y + z = 2$$

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

(3)

C

$$\begin{pmatrix} 1 & 2 & -1 \\ 0 & 3 & +1 \\ 2 & 1 & -1 \end{pmatrix} \begin{pmatrix} x \\ y \\ z \end{pmatrix} = \begin{pmatrix} -1 \\ 2 \\ 0 \end{pmatrix}$$

A

X

B

$$(A|B) = \left[ \begin{array}{ccc|c} 1 & 2 & -1 & -1 \\ 0 & 3 & 1 & 2 \\ 2 & 1 & -1 & 0 \end{array} \right] \xrightarrow{r_3 - 2r_1 \rightarrow r_3} \left[ \begin{array}{ccc|c} 1 & 2 & -1 & -1 \\ 0 & 3 & 1 & 2 \\ 0 & -3 & 1 & 2 \end{array} \right]$$

$$\left[ \begin{array}{ccc|c} 1 & 2 & -1 & -1 \\ 0 & 3 & 1 & 2 \\ 0 & 0 & 2 & 4 \end{array} \right] \xleftarrow{r_3 + r_2 \rightarrow r_3} \left[ \begin{array}{ccc|c} 1 & 2 & -1 & -1 \\ 0 & 3 & 1 & 2 \\ 0 & 0 & 4 & 4 \end{array} \right]$$



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

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

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

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

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

$$p = : 6 :$$

$$q = : 3 :$$

$$r = : -3 :$$

b) Find the determinant of A. : -6

c) Find x using the cramer's rule.

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

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

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

$$g = : \quad h = : \quad i = :$$

$$|A_1| = :$$

$$x = :$$

d) Find y using the cramer's rule.

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

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

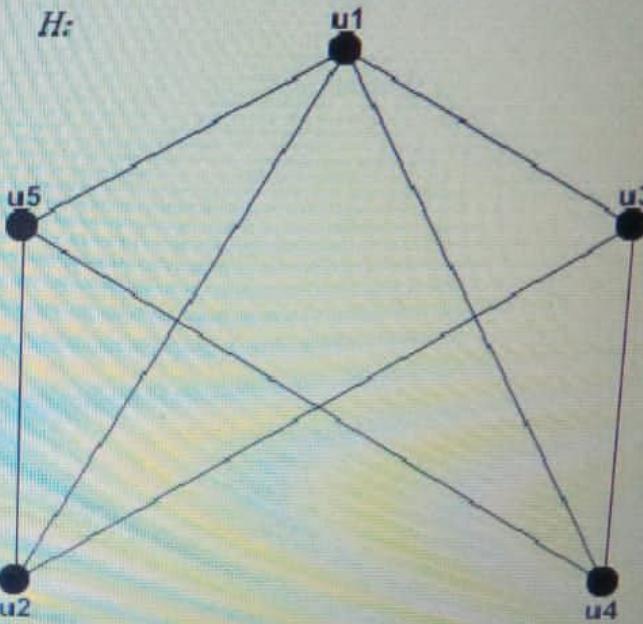
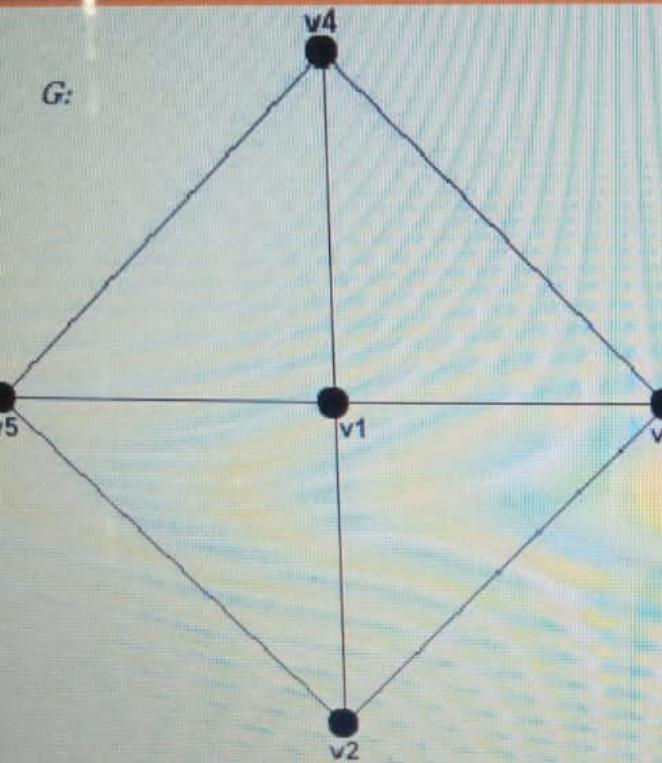
Find  $f'(-2)$ .

Hint : Differentiate the function and Substitute -2.  
(No spaces should be in the answer)

Answer:

I

Marked out of  
1.00  
 Flag question



$G$

$H$

Number of Components

Number of Vertices

Number of Edges

Degree Sequence

Question 1

Not yet answered

Marked out of  
1.00 Flag question

Obtain the truth table for the following expression.

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

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

- 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 1:52:48

1	2	3	4	5
9	10	11	12	13
17	18	19	20	21

x



2

-2

b) Consider the following. Find the values of the resulting matrix, when the 1 operations are applied in the given order.

$$\begin{bmatrix} 1 & -2 & 3 & 1 & 0 & 0 \\ -2 & 1 & -2 & 0 & 1 & 0 \\ 3 & -3 & 7 & 0 & 0 & 1 \end{bmatrix} \rightarrow \begin{bmatrix} a & b & c & j & k & l \\ d & e & f & m & n & o \\ g & h & i & p & q & r \end{bmatrix}$$

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

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

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

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

$$5. r'_2 = r_2 - 4r_3$$

$$6. r'_2 = r_2 \times -\frac{1}{3}$$

$$7. r'_1 = r_1 - 3r_3$$

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

$$d = \quad e = \quad f =$$

$$g = \quad h = \quad i =$$

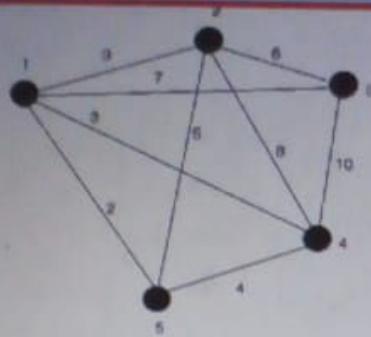
$$j = \quad k = \quad l =$$

$$m = \quad n = \quad o =$$

$$p = \quad q = \quad r =$$



Submitted 00:00  
Flag question



Euler Path =

- Yes  
 No

Euler Circuit =

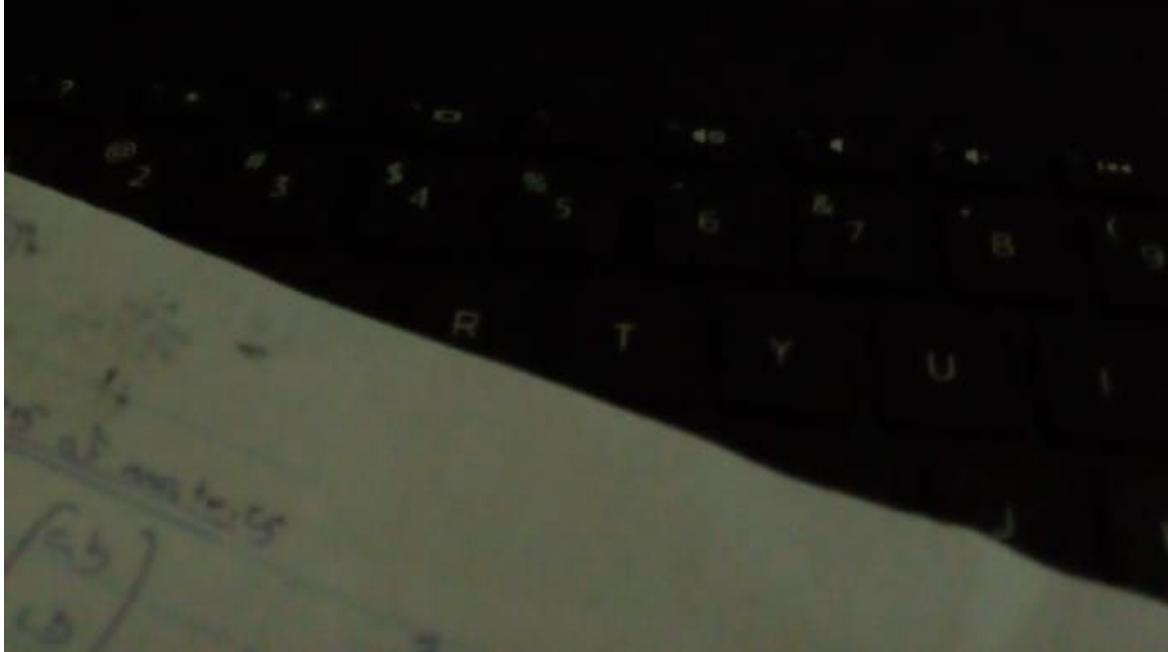
- Yes  
 No

Hamilton Path =

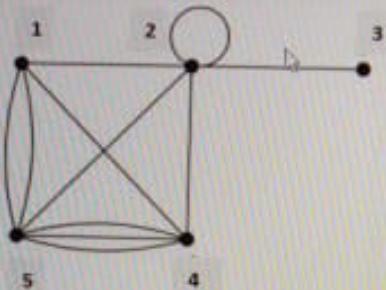
- Yes  
 No

Hamilton Circuit =

- Yes  
 No



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

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

1 2 3 4 5

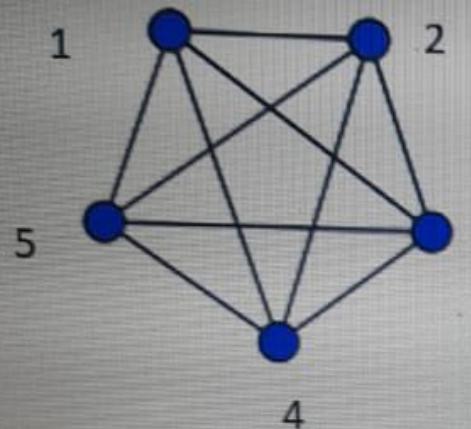
Question 5

Not yet answered

Marked out of  
0.00

Flag 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 =

≡ Quiz na

Finish attempt

Time left 1:26:34

1	2	3
8	9	10
15	16	17
22		

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 form.

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

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

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

$$r'_3 = r_3 - \frac{4}{3}r_2$$

$$a = : \boxed{1} \quad a_1 = : \boxed{\phantom{00}} \quad a_2 = : \boxed{\phantom{00}} \quad a_3 = : \boxed{\phantom{00}}$$

$$b = : \boxed{2} \quad b_1 = : \boxed{\phantom{00}} \quad b_2 = : \boxed{\phantom{00}} \quad b_3 = : \boxed{\phantom{00}}$$

$$c = : \boxed{-2} \quad c_1 = : \boxed{\phantom{00}} \quad c_2 = : \boxed{\phantom{00}} \quad c_3 = : \boxed{\phantom{00}}$$

$$d = : \boxed{2} \quad d_1 = : \boxed{\phantom{00}} \quad d_2 = : \boxed{\phantom{00}} \quad d_3 = : \boxed{\phantom{00}}$$

$$e = : \boxed{1} \quad e_1 = : \boxed{\phantom{00}} \quad e_2 = : \boxed{\phantom{00}} \quad e_3 = : \boxed{\phantom{00}}$$

$$f = : \boxed{-2} \quad f_1 = : \boxed{\phantom{00}} \quad f_2 = : \boxed{\phantom{00}} \quad f_3 = : \boxed{\phantom{00}}$$

$$g = : \boxed{3} \quad g_1 = : \boxed{1} \quad g_2 = : \boxed{\phantom{00}} \quad g_3 = : \boxed{\phantom{00}}$$

$$h = : \boxed{2} \quad h_1 = : \boxed{\phantom{00}} \quad h_2 = : \boxed{\phantom{00}} \quad h_3 = : \boxed{\phantom{00}}$$

$$i = : \boxed{-1} \quad i_1 = : \boxed{\phantom{00}} \quad i_2 = : \boxed{\phantom{00}} \quad i_3 = : \boxed{\phantom{00}}$$

$$p = : \boxed{2} \quad p_1 = : \boxed{\phantom{00}} \quad p_2 = : \boxed{\phantom{00}} \quad p_3 = : \boxed{\phantom{00}}$$

$$q = : \boxed{-2} \quad q_1 = : \boxed{\phantom{00}} \quad q_2 = : \boxed{\phantom{00}} \quad q_3 = : \boxed{\phantom{00}}$$

$$r = : \boxed{-1} \quad r_1 = : \boxed{\phantom{00}} \quad r_2 = : \boxed{\phantom{00}} \quad r_3 = : \boxed{\phantom{00}}$$

**Question 10**

Not yet answered

Marked out of  
1.00 Flag question

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

$$f: N \rightarrow N \quad f(n) = x^3 - 2x + 1$$

Is  $f$  a One to one function?

Choose... 

Choose... 

Is  $f$  an onto function?

Choose... 

Does  $f$  has an inverse function?

 Quiz navi

Finish attempt ...

Time left 1:13:18

1	2	3
8	9	10
15	16	17
22		

[Next page](#)

**Question 10**

Not yet answered

Marked out of  
1.00 Flag question

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

$$f: N \rightarrow N \quad f(n) = x^3 - 2x + 1$$

Is  $f$  a One to one function?

Choose... 

Choose... 

Is  $f$  an onto function?

Choose... 

Does  $f$  has an inverse function?

 Quiz navi

Finish attempt ...

Time left 1:13:18

1	2	3
8	9	10
15	16	17
22		

[Next page](#)

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:

I

Find the following definite integral.

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

$$\int_{-1}^6 12x^3 - 9x^2 + 2 \, dx = 3250$$



W E R T Y U

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).

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

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

$$= A \cdot 1 + \bar{A}B + \bar{A}C \quad \square$$

$$= A(\bar{A} + 1) + \bar{A}B + \bar{A}C \quad \square$$

$$= A\bar{A} + A + \bar{A}B + \bar{A}C \quad \square$$

$$= \bar{A}(A + B + C) + A \quad \square$$

the reason (Number of the boolean identity acc)

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

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

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

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

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



# NetExam

Sri Lanka Institute of Information Technology

Consider the following linear system of equations.

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

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

$$3x + y - z = 8$$

a) Represent the above system of linear equations in matrix

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

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

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

$$g = : \quad h = : \quad i = :$$

$$p = :$$

$$q = :$$

$$r = :$$

b) Find the determinant of A. :

c) Find x using the cramer's rule.

ed

on

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 = :

c = :

d = :

e = :

f = :

g = :

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 that to echelon form.

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

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

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

$$r'_3 = r_3 - \frac{4}{3}r_2$$

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

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

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

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

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

$$f = : \quad f_1 = : \quad f_2 = : \quad f_3 = :$$

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

$$h = : \quad h_1 = : \quad h_2 = : \quad h_3 = :$$

$$i = : \quad i_1 = : \quad i_2 = : \quad i_3 = :$$





Question 7

Not yet answered

Marked out of  
1.00

Flag question

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:

1000

TAKING YOU TO A  
NEW REALITY



**Question 9**

Not yet answered

Marked out of  
1.00

Flag question

To buy a computer system, a customer can choose one of 7 monitors, one of 6 keyboards, one of 5 computers and one of 3 printers.

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

Answer = :

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

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

Answer = :

[Next page](#)

Marked out of  
1.00 Flag question

$$\begin{aligned} 3y + z &= 2 \\ 2x + y - z &= 0 \end{aligned}$$

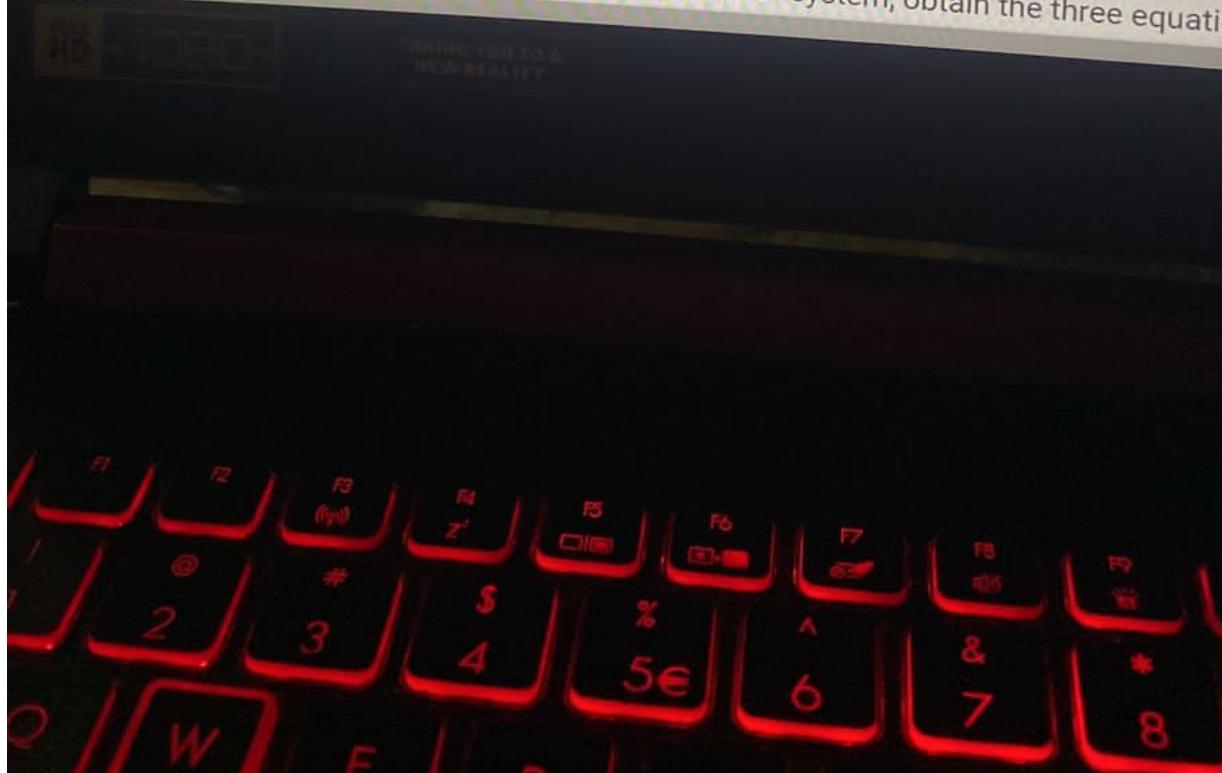
1. Write down the augmented matrix for the above system of linear equations.

$$\left[ \begin{array}{cccc} a & b & c & p \\ d & e & f & q \\ g & h & i & r \end{array} \right] \rightarrow \left[ \begin{array}{cccc} a_1 & b_1 & c_1 & p_1 \\ d_1 & e_1 & f_1 & q_1 \\ g_1 & h_1 & i_1 & r_1 \end{array} \right] \rightarrow \left[ \begin{array}{cccc} a_2 & b_2 & c_2 & p_2 \\ d_2 & e_2 & f_2 & q_2 \\ g_2 & h_2 & i_2 & r_2 \end{array} \right]$$

$$r'_3 = r_3 - 2r_1 \quad . \quad r'_3 = r_3 + r_2$$

$a = :$	<input type="text" value="1"/>	$a_1 = :$	<input type="text" value="1"/>	$a_2 = :$	<input type="text" value="1"/>
$b = :$	<input type="text" value="2"/>	$b_1 = :$	<input type="text" value="2"/>	$b_2 = :$	<input type="text" value="2"/>
$c = :$	<input type="text" value="-1"/>	$c_1 = :$	<input type="text" value="-1"/>	$c_2 = :$	<input type="text" value="-1"/>
$d = :$	<input type="text" value="0"/>	$d_1 = :$	<input type="text" value="0"/>	$d_2 = :$	<input type="text" value="0"/>
$e = :$	<input type="text" value="3"/>	$e_1 = :$	<input type="text" value="3"/>	$e_2 = :$	<input type="text" value="3"/>
$f = :$	<input type="text" value="1"/>	$f_1 = :$	<input type="text" value="1"/>	$f_2 = :$	<input type="text" value="1"/>
$g = :$	<input type="text" value="2"/>	$g_1 = :$	<input type="text" value="0"/>	$g_2 = :$	<input type="text" value="0"/>
$h = :$	<input type="text" value="1"/>	$h_1 = :$	<input type="text" value="-3"/>	$h_2 = :$	<input type="text" value="0"/>
$i = :$	<input type="text" value="-1"/>	$i_1 = :$	<input type="text" value="1"/>	$i_2 = :$	<input type="text" value="2"/>
$p = :$	<input type="text" value="-1"/>	$p_1 = :$	<input type="text" value="-1"/>	$p_2 = :$	<input type="text" value="-1"/>
$q = :$	<input type="text" value="2"/>	$q_1 = :$	<input type="text" value="2"/>	$q_2 = :$	<input type="text" value="2"/>
$r = :$	<input type="text" value="0"/>	$r_1 = :$	<input type="text" value="2"/>	$r_2 = :$	<input type="text" value="4"/>

2. To find the solution of the above linear system, obtain the three equations



Question 9  
Not yet answered  
Marked out of 1.00  
 Flag question

Consider the following linear system of equations.

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

$$3y + z = 2$$

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

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

$$\begin{bmatrix} a & b & c & p \\ d & e & f & q \\ g & h & i & r \end{bmatrix} \rightarrow \begin{bmatrix} a_1 & b_1 & c_1 & p_1 \\ d_1 & e_1 & f_1 & q_1 \\ g_1 & h_1 & i_1 & r_1 \end{bmatrix} \rightarrow \begin{bmatrix} a_2 & b_2 & c_2 & p_2 \\ d_2 & e_2 & f_2 & q_2 \\ g_2 & h_2 & i_2 & r_2 \end{bmatrix}$$

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

$$r'_3 = r_3 + r_2$$

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

$$b = : \quad b_1 = : \quad b_2 = :$$

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

$$d = : \quad d_1 = : \quad d_2 = :$$

$$e = : \quad e_1 = : \quad e_2 = :$$

$$f = : \quad f_1 = : \quad f_2 = :$$

$$g = : \quad g_1 = : \quad g_2 = :$$

$$h = : \quad h_1 = : \quad h_2 = :$$

$$i = : \quad i_1 = : \quad i_2 = :$$

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

$$q = : \quad q_1 = : \quad q_2 = :$$

$$r = : \quad r_1 = : \quad r_2 = :$$

≡ Quiz navigation

Finish attempt ...

Time left 0:42:00

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

Activate Windows  
Windows Product Activation (Windows)

2008

SAMSUNG

**Question 15**

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
- No

Euler Circuit =

- Yes
- No

Hamilton Path =

- Yes
- No

Hamilton Circuit =



Question 10

Not yet answered

Marked out of  
1.00

Flag question

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 :

Next page



# NetExam

Sri Lanka Institute of Information Technology

Find the following definite integral.

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

Answer:

**Question 4**

Not yet answered

Marked out of  
0.0

Flag question

John is running a concession stand at a volleyball game. John is selling Noodle packs and Milo packets. Each Noodle pack costs 80LKR and each Milo packet costs 50LKR. At the end John had a total of 5700LKR. John sold a total of 90 Noodle packs and Milo Packets combined. Write down 2 equations to find, number of Noodle packs( $x$ )and Milo packets ( $y$ ) sold?

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = \boxed{\phantom{000}}$$

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = 90$$

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

$$Ax = b$$

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

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

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

$$c = :$$

≡ Quiz na

Finish attempt

Time left 1:13:

1	2	3
8	9	10
15	16	17
22		



2

answered  
out of  
question

Obtain the truth table for the following expression.

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

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

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



NetExam

Sri Lanka Institute of Information Technology

Question 4  
Not yet answered  
Marked out of  
1.00

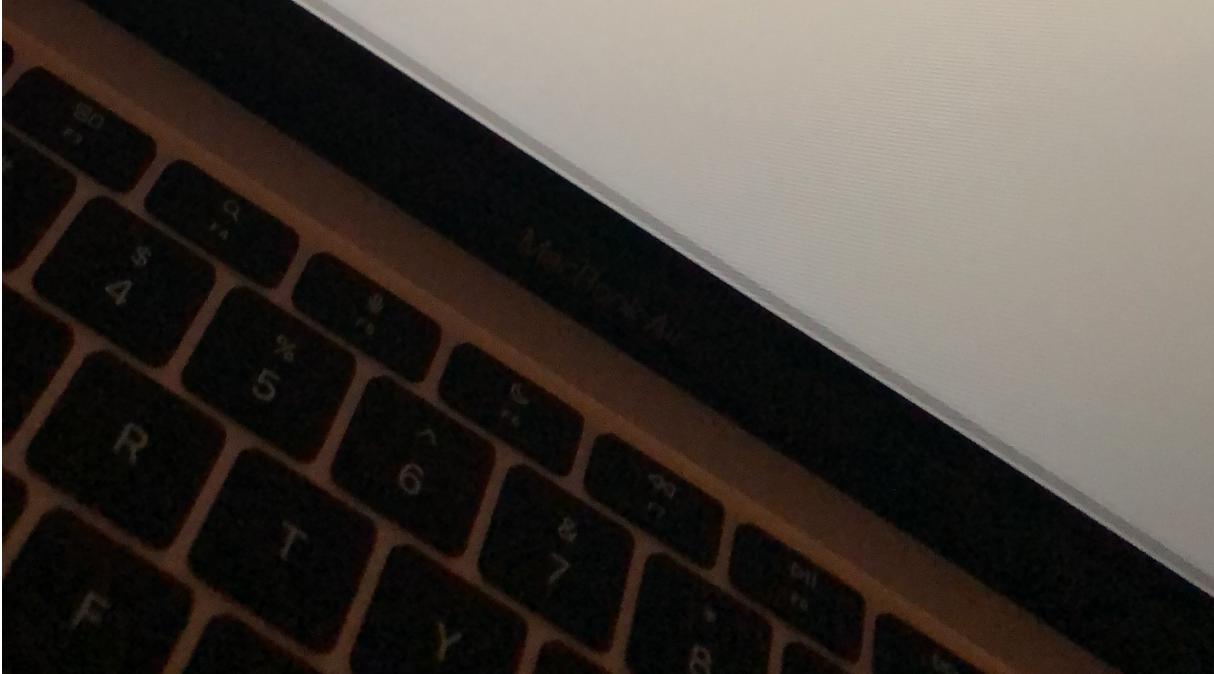
Flag question

Find the following definite integral.

$$\int_{-3}^0 5x - 4 \, dx$$

(Write the answer as a fraction Eg: 3/2, Please remove spaces from the answer.)

Answer:





20

Answered  
part of  
question

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

## Question 2

Not yet answered

Marked out of  
1.00

Flag question

Consider the following linear system of equations.

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

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

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

≡ Quiz na

Finish attemp

Time left 1:39

1	2
9	10
17	18

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

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

$$r'_2 = r_2 + r_1$$

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

$$r'_3 = r_3 - r_2$$

$$a = : \boxed{\phantom{00}} \quad a_1 = : \boxed{\phantom{00}} \quad a_2 = : \boxed{\phantom{00}} \quad a_3 = : \boxed{\phantom{00}}$$

$$b = : \boxed{\phantom{00}} \quad b_1 = : \boxed{\phantom{00}} \quad b_2 = : \boxed{\phantom{00}} \quad b_3 = : \boxed{\phantom{00}}$$

$$c = : \boxed{\phantom{00}} \quad c_1 = : \boxed{\phantom{00}} \quad c_2 = : \boxed{\phantom{00}} \quad c_3 = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}} \quad d_1 = : \boxed{\phantom{00}} \quad d_2 = : \boxed{\phantom{00}} \quad d_3 = : \boxed{\phantom{00}}$$

$$e = : \boxed{\phantom{00}} \quad e_1 = : \boxed{\phantom{00}} \quad e_2 = : \boxed{\phantom{00}} \quad e_3 = : \boxed{\phantom{00}}$$

$$f = : \boxed{\phantom{00}} \quad f_1 = : \boxed{\phantom{00}} \quad f_2 = : \boxed{\phantom{00}} \quad f_3 = : \boxed{\phantom{00}}$$

$$g = : \boxed{\phantom{00}} \quad g_1 = : \boxed{\phantom{00}} \quad g_2 = : \boxed{\phantom{00}} \quad g_3 = : \boxed{\phantom{00}}$$

$$h = : \boxed{\phantom{00}} \quad h_1 = : \boxed{\phantom{00}} \quad h_2 = : \boxed{\phantom{00}} \quad h_3 = : \boxed{\phantom{00}}$$

$$i = : \boxed{\phantom{00}} \quad i_1 = : \boxed{\phantom{00}} \quad i_2 = : \boxed{\phantom{00}} \quad i_3 = : \boxed{\phantom{00}}$$

$$p = : \boxed{\phantom{00}} \quad p_1 = : \boxed{\phantom{00}} \quad p_2 = : \boxed{\phantom{00}} \quad p_3 = : \boxed{\phantom{00}}$$

## Question 2

Not yet answered

Marked out of  
1.00

Flag question

Consider the following linear system of equations.

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

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

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

≡ Quiz na

Finish attemp

Time left 1:39

1	2
9	10
17	18

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

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

$$r'_2 = r_2 + r_1$$

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

$$r'_3 = r_3 - r_2$$

$$a = : \boxed{\phantom{00}} \quad a_1 = : \boxed{\phantom{00}} \quad a_2 = : \boxed{\phantom{00}} \quad a_3 = : \boxed{\phantom{00}}$$

$$b = : \boxed{\phantom{00}} \quad b_1 = : \boxed{\phantom{00}} \quad b_2 = : \boxed{\phantom{00}} \quad b_3 = : \boxed{\phantom{00}}$$

$$c = : \boxed{\phantom{00}} \quad c_1 = : \boxed{\phantom{00}} \quad c_2 = : \boxed{\phantom{00}} \quad c_3 = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}} \quad d_1 = : \boxed{\phantom{00}} \quad d_2 = : \boxed{\phantom{00}} \quad d_3 = : \boxed{\phantom{00}}$$

$$e = : \boxed{\phantom{00}} \quad e_1 = : \boxed{\phantom{00}} \quad e_2 = : \boxed{\phantom{00}} \quad e_3 = : \boxed{\phantom{00}}$$

$$f = : \boxed{\phantom{00}} \quad f_1 = : \boxed{\phantom{00}} \quad f_2 = : \boxed{\phantom{00}} \quad f_3 = : \boxed{\phantom{00}}$$

$$g = : \boxed{\phantom{00}} \quad g_1 = : \boxed{\phantom{00}} \quad g_2 = : \boxed{\phantom{00}} \quad g_3 = : \boxed{\phantom{00}}$$

$$h = : \boxed{\phantom{00}} \quad h_1 = : \boxed{\phantom{00}} \quad h_2 = : \boxed{\phantom{00}} \quad h_3 = : \boxed{\phantom{00}}$$

$$i = : \boxed{\phantom{00}} \quad i_1 = : \boxed{\phantom{00}} \quad i_2 = : \boxed{\phantom{00}} \quad i_3 = : \boxed{\phantom{00}}$$

$$p = : \boxed{\phantom{00}} \quad p_1 = : \boxed{\phantom{00}} \quad p_2 = : \boxed{\phantom{00}} \quad p_3 = : \boxed{\phantom{00}}$$

## Question 2

Not yet answered

Marked out of  
1.00

Flag question

Consider the following linear system of equations.

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

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

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

≡ Quiz na

Finish attemp

Time left 1:39

1	2
9	10
17	18

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

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

$$r'_2 = r_2 + r_1$$

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

$$r'_3 = r_3 - r_2$$

$$a = : \boxed{\phantom{00}} \quad a_1 = : \boxed{\phantom{00}} \quad a_2 = : \boxed{\phantom{00}} \quad a_3 = : \boxed{\phantom{00}}$$

$$b = : \boxed{\phantom{00}} \quad b_1 = : \boxed{\phantom{00}} \quad b_2 = : \boxed{\phantom{00}} \quad b_3 = : \boxed{\phantom{00}}$$

$$c = : \boxed{\phantom{00}} \quad c_1 = : \boxed{\phantom{00}} \quad c_2 = : \boxed{\phantom{00}} \quad c_3 = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}} \quad d_1 = : \boxed{\phantom{00}} \quad d_2 = : \boxed{\phantom{00}} \quad d_3 = : \boxed{\phantom{00}}$$

$$e = : \boxed{\phantom{00}} \quad e_1 = : \boxed{\phantom{00}} \quad e_2 = : \boxed{\phantom{00}} \quad e_3 = : \boxed{\phantom{00}}$$

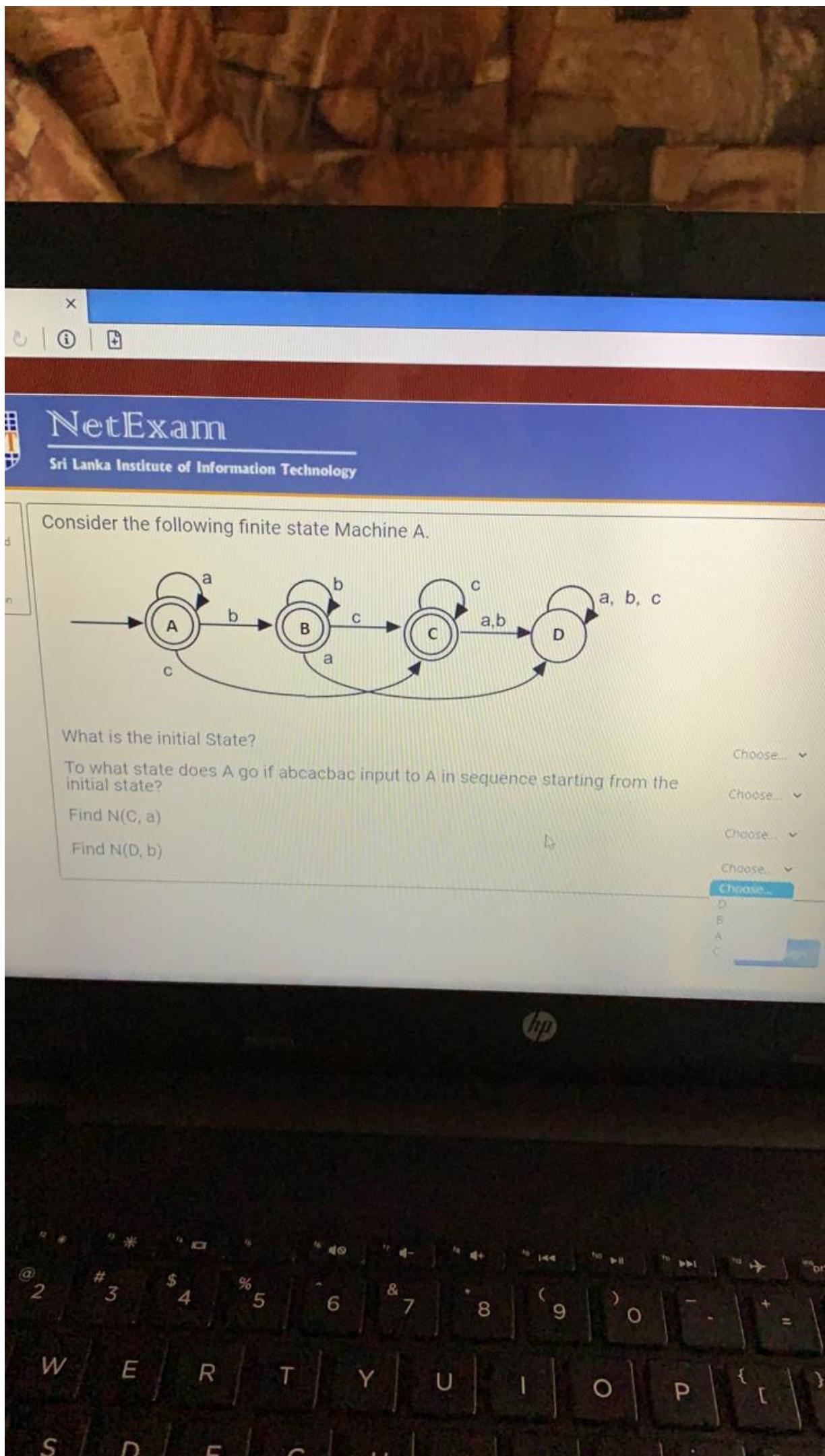
$$f = : \boxed{\phantom{00}} \quad f_1 = : \boxed{\phantom{00}} \quad f_2 = : \boxed{\phantom{00}} \quad f_3 = : \boxed{\phantom{00}}$$

$$g = : \boxed{\phantom{00}} \quad g_1 = : \boxed{\phantom{00}} \quad g_2 = : \boxed{\phantom{00}} \quad g_3 = : \boxed{\phantom{00}}$$

$$h = : \boxed{\phantom{00}} \quad h_1 = : \boxed{\phantom{00}} \quad h_2 = : \boxed{\phantom{00}} \quad h_3 = : \boxed{\phantom{00}}$$

$$i = : \boxed{\phantom{00}} \quad i_1 = : \boxed{\phantom{00}} \quad i_2 = : \boxed{\phantom{00}} \quad i_3 = : \boxed{\phantom{00}}$$

$$p = : \boxed{\phantom{00}} \quad p_1 = : \boxed{\phantom{00}} \quad p_2 = : \boxed{\phantom{00}} \quad p_3 = : \boxed{\phantom{00}}$$



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

$$f(t) = \frac{4}{t} - \frac{1}{6t^3} + \frac{8}{t^5}$$

$$f'(t) = \boxed{-4} t^{\boxed{-2}} + \boxed{1/2} t^{\boxed{-4}} - 40 t^{\boxed{-6}}$$



# NetExam

Sri Lanka Institute of Information Technology

n 19

answered

out of

question

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

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

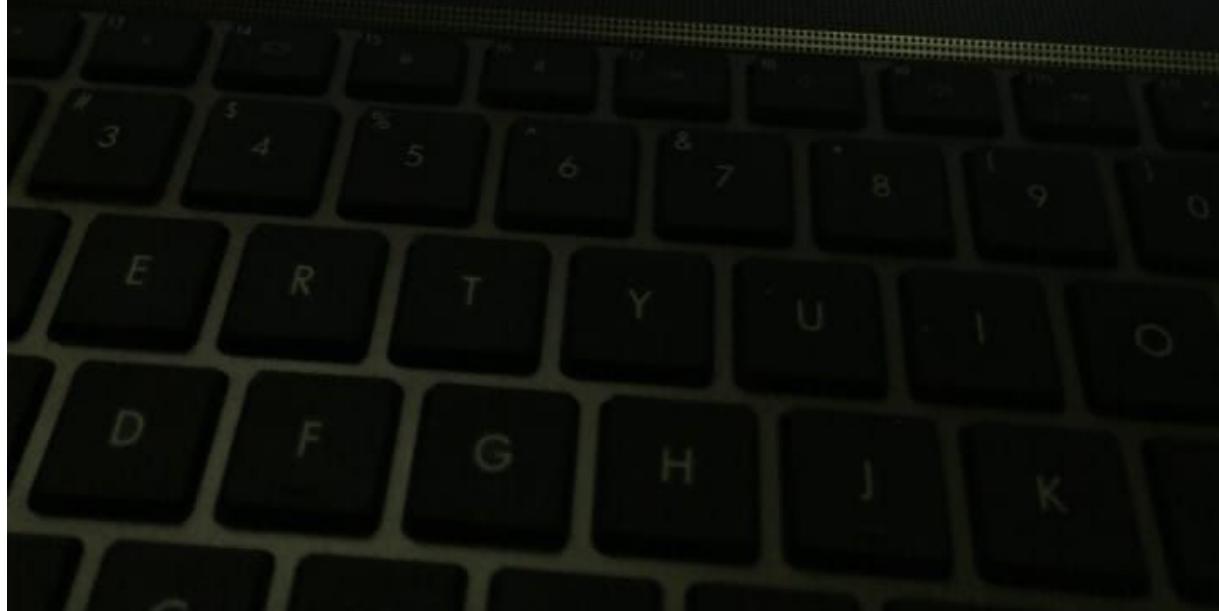
$$B = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$$

a = :

b = :

c = :

d = :



Answered  
t of

question

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

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

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

a = :



b = :

c = :

d = :

## Question 12

Not yet answered

Marked out of  
1.00 Flag question

Consider the following linear system of equations.

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

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

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

(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  $Ax = b$ .

$$A = \begin{bmatrix} \quad & \quad & \quad \\ \quad & \quad & \quad \\ \quad & \quad & \quad \end{bmatrix}$$

$$b = \begin{bmatrix} \quad \\ \quad \\ \quad \end{bmatrix}$$

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

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

$$1. r'_2 = r_2 - 3r_1$$

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

## ≡ Quiz navigation

Finish attempt ...

Time left 0:28:34

1	2	3	4	5
9	10	11	12	13
17	18	19	20	21

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.

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

$$r'_2 = r_2 + r_1$$

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

$$r'_3 = r_3 - r_2$$

$$a = : \boxed{\phantom{00}} \quad a_1 = : \boxed{\phantom{00}} \quad a_2 = : \boxed{\phantom{00}} \quad a_3 = : \boxed{\phantom{00}}$$

$$b = : \boxed{\phantom{00}} \quad b_1 = : \boxed{\phantom{00}} \quad b_2 = : \boxed{\phantom{00}} \quad b_3 = : \boxed{\phantom{00}}$$

$$c = : \boxed{\phantom{00}} \quad c_1 = : \boxed{\phantom{00}} \quad c_2 = : \boxed{\phantom{00}} \quad c_3 = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}} \quad d_1 = : \boxed{\phantom{00}} \quad d_2 = : \boxed{\phantom{00}} \quad d_3 = : \boxed{\phantom{00}}$$

$$e = : \boxed{\phantom{00}} \quad e_1 = : \boxed{\phantom{00}} \quad e_2 = : \boxed{\phantom{00}} \quad e_3 = : \boxed{\phantom{00}}$$

$$f = : \boxed{\phantom{00}} \quad f_1 = : \boxed{\phantom{00}} \quad f_2 = : \boxed{\phantom{00}} \quad f_3 = : \boxed{\phantom{00}}$$



14

answered  
out of

question

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

Find  $f'(-2)$ .

Hint : Differentiate the function and Substitute -2.  
(No spaces should be in the answer)

Answer:

I

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:

|

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

1 2 3 4 5

1  $\begin{bmatrix} a & b & c & d & e \\ f & g & h & i & j \\ k & l & m & n & o \\ p & q & r & s & t \\ u & v & w & x & y \end{bmatrix}$

a = :      b = :      c = :      d = :      e = :

f = :      g = :      h = :      i = :      j = :

k = :      l = :      m = :      n = :      o = :

p = :      q = :      r = :      s = :      t = :

u = :      v = :      w = :      x = :      y = :

c) Degree sequence of a graph is 7, 6, 5, 4, 2, 2, 2, 1, 1, 1, 1.

Does this graph exist?

Yes

No

← → × ⌂ | ⓘ | +

-12 -20 ▾

$C_{13}$  14 ▾

$C_{21}$  4 ▾

$C_{22}$  -9 ▾

$C_{23}$  2 ▾

$C_{31}$  21 ▾

$C_{32}$  28 ▾

$C_{33}$  -11 ▾



8

answered  
out of

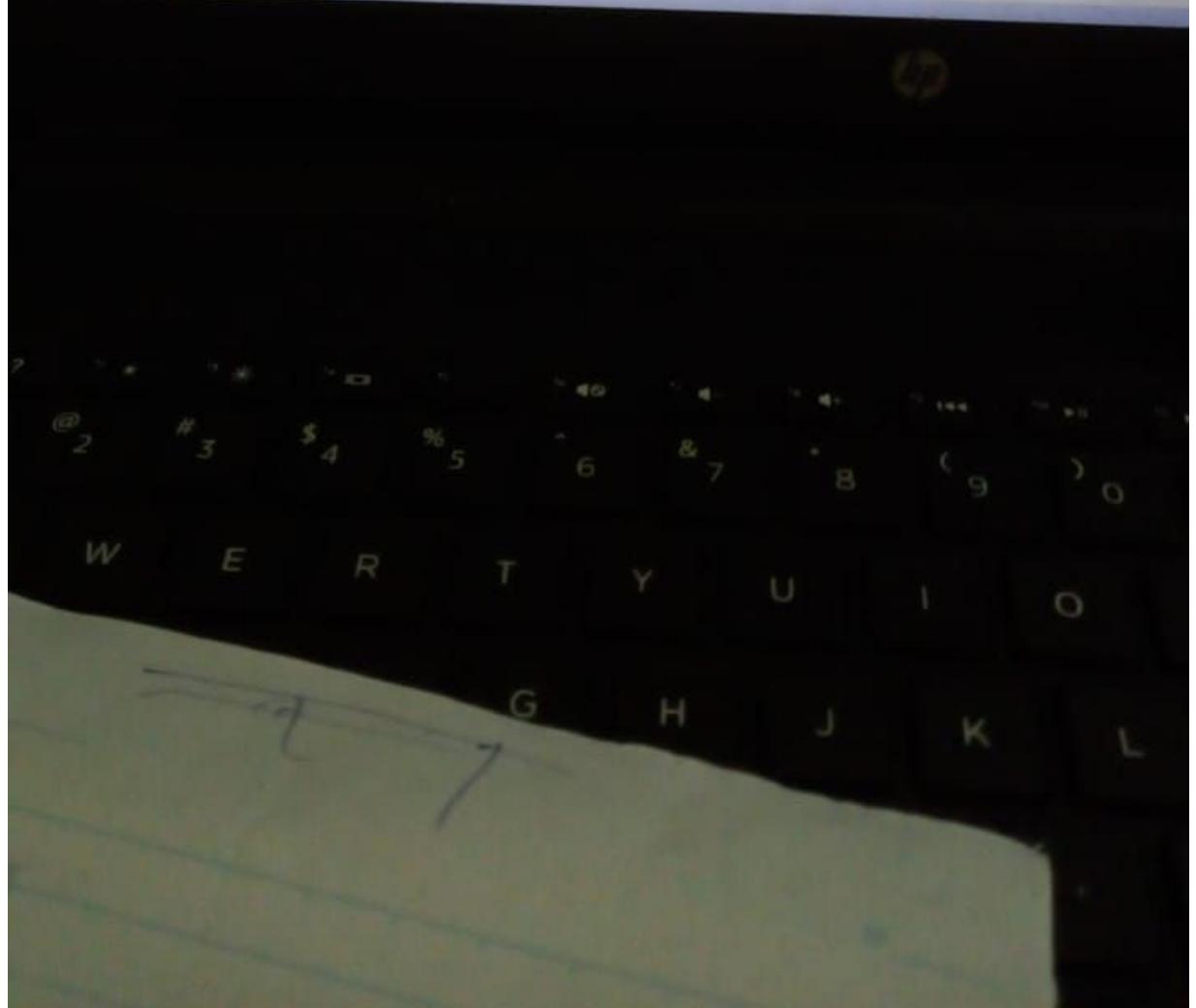
question

Simplify the following boolean expression.

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

Select one:

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



**Question 6**

Not yet answered

Marked out of  
1.00[Flag question](#)

Consider the following linear system of equations.

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

$$3y + z = 2$$

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

1. Write down the augmented matrix for the above system of linear equations form.

$$\begin{bmatrix} a & b & c & p \\ d & e & f & q \\ g & h & i & r \end{bmatrix} \rightarrow \begin{bmatrix} a_1 & b_1 & c_1 & p_1 \\ d_1 & e_1 & f_1 & q_1 \\ g_1 & h_1 & i_1 & r_1 \end{bmatrix} \rightarrow \begin{bmatrix} a_2 & b_2 & c_2 & p_2 \\ d_2 & e_2 & f_2 & q_2 \\ g_2 & h_2 & i_2 & r_2 \end{bmatrix}$$

$$r'_3 = r_3 - 2r_1 \quad . \quad r'_3 = r_3 + r_2$$

$$a = : 1 \quad a1 = : \quad a2 = :$$



Question 6

Not yet answered

Marked out of  
1.00

Flag question

Consider the function  $f:R \rightarrow R$   $f(x) = x^2 - 7$

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?

$f^{-1}(x) = (x-7)^{(1/2)}$

$f^{-1}(x) = 1/(x-7)^{1/2}$

$f^{-1}(x) = (x-7)^2$

Does not exist

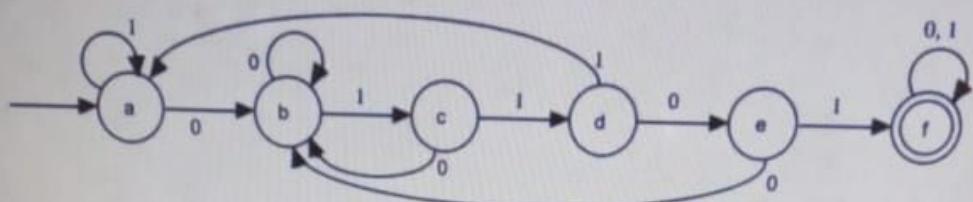
≡ Quiz navigation

Finish attempt ...

Time left 1:06:18

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

Consider the following finite state Machine A.



What is the initial State?

To what state does A go if 1010111 input to A in sequence starting from the initial state?

Find  $N(d, 1)$

Find  $N(f, 0)$

Choose...  
Choose...  
d  
c  
b  
a  
f  
e

Next page

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... ▾

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

$$f: N \rightarrow N \quad f(n) = x^3 - 2x + 1$$

Is  $f$  a One to one function?

Choose... ▾

Is  $f$  an onto function?

Choose... ▾



Does  $f$  has an inverse function?

Choose... ▾

Next

X



for 15 bushes and 8 trees, and the cost was 3850LKR.

and 5 trees, and the cost was 2200LKR.

and a tree ( $Y$ ).

$$15 * X + 8 * Y = 3850$$

$$8 * X + 5 * Y = 2200$$

a) Write the above 2 equations in matrix form

$$Ax = b$$

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

$$p = : 15 \quad q = : 8$$

$$r = : 8 \quad s = : 5$$

$$c = : 3850$$

$$d = : 2200$$

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

b) Simplify the above expression according to the reason (Number of the boolean identity according to the reason)

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

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

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

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

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

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

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

$$1. r'_2 = r_2 - 3r_1$$

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

$$3. r'_3 = r_3 - \frac{1}{4}r_2$$

$$4. r'_3 = r_3 \times \frac{2}{5}$$

$$5. r'_2 = r_2 - 6r_3$$

$$6. r'_2 = r_2 \times \frac{1}{4}$$

$$7. r'_1 = r_1 + r_3$$

$$a = \boxed{\phantom{000}} \quad b = \boxed{\phantom{000}} \quad c = \boxed{\phantom{000}}$$

$$d = \boxed{\phantom{000}} \quad e = \boxed{\phantom{000}} \quad f = \boxed{\phantom{000}}$$

$$g = \boxed{\phantom{000}} \quad h = \boxed{\phantom{000}} \quad i = \boxed{\phantom{000}}$$

$$j = \boxed{\phantom{000}} \quad k = \boxed{\phantom{000}} \quad l = \boxed{\phantom{000}}$$

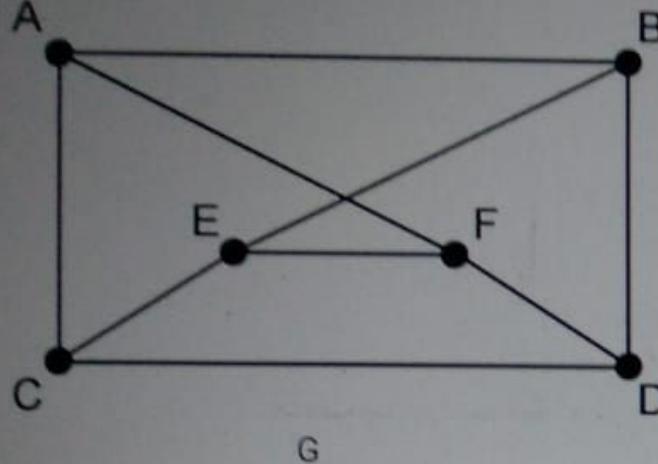
$$m = \boxed{\phantom{000}} \quad n = \boxed{\phantom{000}} \quad o = \boxed{\phantom{000}}$$

$$p = \boxed{\phantom{000}} \quad q = \boxed{\phantom{000}} \quad r = \boxed{\phantom{000}}$$

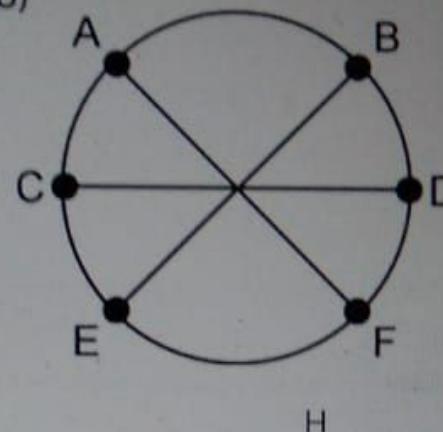
c) Using the answer in (b), find the inverse of the coefficient matrix A.

Consider the following 2 graphs.

a)



b)



Number of Components

G  
1

H  
1

Number of Vertices

G  
6

H  
6

Number of Edges

G  
7

H  
9

Degree Sequence

G  
3 , 3 , 3 , 3 , 3 , 3

H  
3 , 3 , 3 , 3 , 3 ,

Are they isomorphic?

G and H are

4

- isomorphic
- Not Isomorphic

← → × ⌂ | ⌂ | +

$$g = : \boxed{3} \quad h = : \boxed{1} \quad i = : \boxed{-1}$$

$$p = : \boxed{1}$$

$$q = : \boxed{-1}$$

$$r = : \boxed{8}$$

b) Find the determinant of A. :

c) Find x using the cramer's rule.

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

$$a = : \boxed{\phantom{00}} \quad b = : \boxed{\phantom{00}} \quad c = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}} \quad e = : \boxed{\phantom{00}} \quad f = : \boxed{\phantom{00}}$$

$$g = : \boxed{\phantom{00}} \quad h = : \boxed{\phantom{00}} \quad i = : \boxed{\phantom{00}}$$

$$|A_1| = : \boxed{\phantom{00}}$$

$$x = : \boxed{\phantom{00}}$$



d) Find y using the cramer's rule.

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

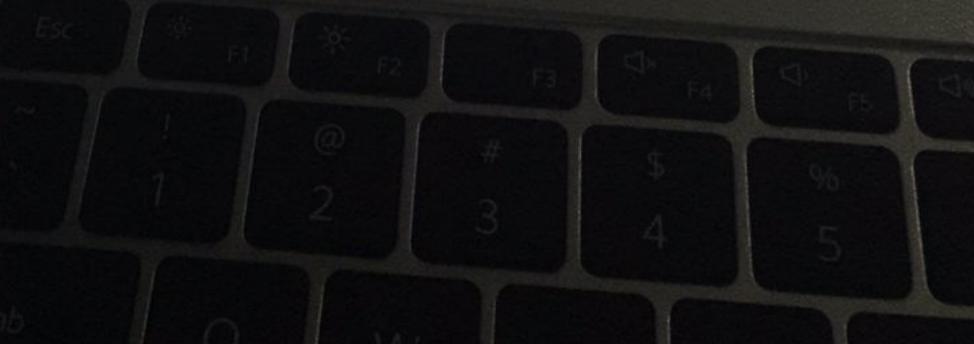
$$a = : \boxed{\phantom{00}} \quad b = : \boxed{\phantom{00}} \quad c = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}} \quad e = : \boxed{\phantom{00}} \quad f = : \boxed{\phantom{00}}$$

$$g = : \boxed{\phantom{00}} \quad h = : \boxed{\phantom{00}} \quad i = : \boxed{\phantom{00}}$$

$$|A_2| = : \boxed{\phantom{00}}$$

$$y = : \boxed{\phantom{00}}$$



← → × ⌂ | ⓘ | +

g = :  h = :  i = :

p = :

q = :  -1

r = :  8

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 = :



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 = :

Esc

F1

!

F2

@

F3

#

\$

F4

%

F5

5

Tab



# NetExam

Sri Lanka Institute of Information Technology

**Question 4**

Not yet answered

Marked out of  
1.00

Flag question

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

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

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

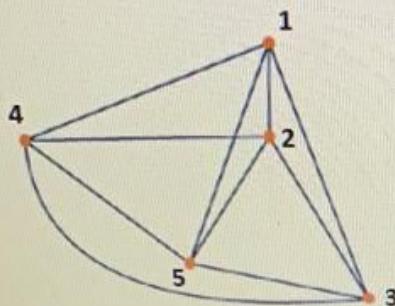
$$a = : \quad \boxed{\phantom{0}}$$

$$b = : \quad \boxed{\phantom{0}}$$

$$c = : \quad \boxed{\phantom{0}}$$

$$d = : \quad \boxed{\phantom{0}}$$

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



Euler Path =

- Yes
- No

Euler Circuit =

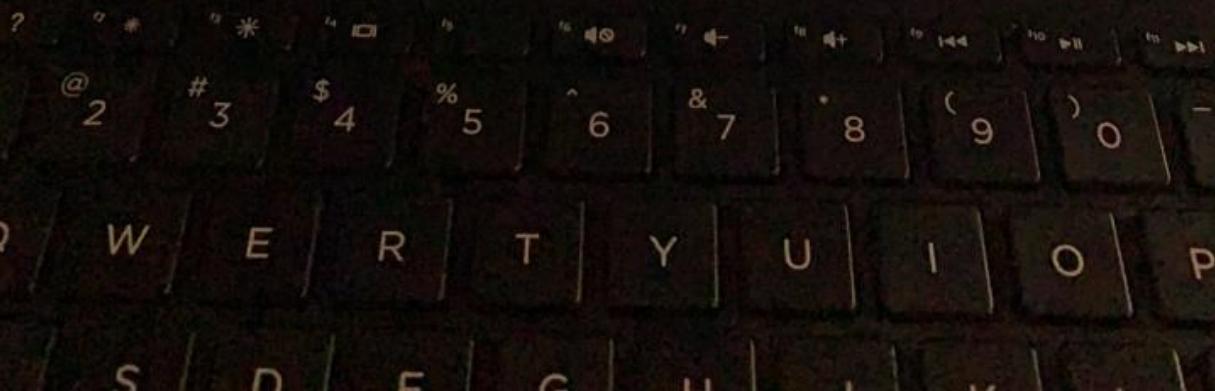
- Yes
- No

Hamilton Path =

- Yes
- No

Hamilton Circuit =

Yes



Find the following definite integral.

$$\int_2^5 |4x - 5| dx$$

(Please remove spaces from the answer)

Answer:

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)

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = \boxed{\phantom{0}}$$

$$\boxed{\phantom{0}} * X + \boxed{\phantom{0}} * Y = 1$$

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

$$Ax = b$$

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

$$p = : \boxed{\phantom{0}} \quad q = : \boxed{\phantom{0}}$$

$$r = : \boxed{\phantom{0}} \quad s = : \boxed{\phantom{0}}$$

$$Ax = B$$

$$\boxed{[A|B]}$$

$$\left[ \begin{array}{ccccc} 1 & -2 & -1 & 1 & 0 \\ 3 & -2 & 3 & 0 & 0 \\ 2 & -3 & 2 & 0 & 1 \end{array} \right]$$

$$\xrightarrow{(1)} \left[ \begin{array}{ccccc} 1 & -2 & -1 & 1 & 0 \\ 0 & 4 & 6 & -3 & 0 \\ 2 & -3 & 2 & 0 & 1 \end{array} \right]$$

$$\xrightarrow{a-\frac{6}{4}}$$

$$\xrightarrow{-2+\frac{3}{4}}$$

$$\left[ \begin{array}{ccccc} 1 & 0 & 0 & 0 & 0 \\ 0 & 4 & 6 & -3 & 0 \\ 2 & -3 & 2 & 0 & 1 \end{array} \right]$$

$\uparrow(3)$

$$\left[ \begin{array}{ccccc} 1 & 0 & 0 & 0 & 0 \\ 0 & 4 & 6 & -3 & 0 \\ 0 & 1 & 4 & -2 & 0 \end{array} \right]$$

$$\left[ \begin{array}{ccccc} 1 & -2 & 0 & 1 & \frac{1}{2} \\ 0 & 1 & 0 & 0 & -\frac{1}{10} \\ 0 & 0 & 1 & -\frac{1}{2} & -\frac{1}{10} \end{array} \right]$$

$\uparrow(2)$

$$\left\{ \begin{array}{ccccc} 1 & -2 & -1 & 1 & 0 \\ 0 & 1 & 0 & 0 & 0 \\ 0 & 0 & 1 & -\frac{1}{2} & -\frac{1}{10} \end{array} \right.$$

$$\left\{ \begin{array}{ccccc} 1 & -2 & -1 & 1 & 0 \\ 0 & 4 & 6 & -3 & 0 \\ 0 & 1 & 4 & -2 & 0 \end{array} \right.$$

$\uparrow(4)$

**Question 9**

Not yet answered

Marked out of  
1.00

 Flag question

Consider the function  $f: \mathbb{R} \rightarrow \mathbb{R}$   $f(x) = x^2 + 6$

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?

- $f^{-1}(x) = (x-6)^{(1/2)}$
- $f^{-1}(x) = 1/(x-6)^{1/2}$
- $f^{-1}(x) = (x-6)^2$

**Question 1**

Not yet answered

Marked out of  
1.00

Flag question

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

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

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



a = :

b = :

c = :

d = :



Question 13

Not yet answered

Marked out of  
1.00

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.

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

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

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

$$r'_3 = r_3 + r_2$$

$$a = : \boxed{\phantom{00}} \quad a_1 = : \boxed{\phantom{00}} \quad a_2 = : \boxed{\phantom{00}} \quad a_3 = : \boxed{\phantom{00}}$$

$$b = : \boxed{\phantom{00}} \quad b_1 = : \boxed{\phantom{00}} \quad b_2 = : \boxed{\phantom{00}} \quad b_3 = : \boxed{\phantom{00}}$$

$$c = : \boxed{\phantom{00}} \quad c_1 = : \boxed{\phantom{00}} \quad c_2 = : \boxed{\phantom{00}} \quad c_3 = : \boxed{\phantom{00}}$$

$$d = : \boxed{\phantom{00}} \quad d_1 = : \boxed{\phantom{00}} \quad d_2 = : \boxed{\phantom{00}} \quad d_3 = : \boxed{\phantom{00}}$$

$$e = : \boxed{\phantom{00}} \quad e_1 = : \boxed{\phantom{00}} \quad e_2 = : \boxed{\phantom{00}} \quad e_3 = : \boxed{\phantom{00}}$$

$$f = : \boxed{\phantom{00}} \quad f_1 = : \boxed{\phantom{00}} \quad f_2 = : \boxed{\phantom{00}} \quad f_3 = : \boxed{\phantom{00}}$$

$$g = : \boxed{\phantom{00}} \quad g_1 = : \boxed{\phantom{00}} \quad g_2 = : \boxed{\phantom{00}} \quad g_3 = : \boxed{\phantom{00}}$$

$$h = : \boxed{\phantom{00}} \quad h_1 = : \boxed{\phantom{00}} \quad h_2 = : \boxed{\phantom{00}} \quad h_3 = : \boxed{\phantom{00}}$$

≡ Quiz naviga

Finish attempt ...

Time left 0:29:15

1	2	3	4
9	10	11	12
17	18	19	20

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

Find  $f'(-2)$ .

Hint : Differentiate the function and Substitute -2.  
(No spaces should be in the answer)

Answer:



d) Find  $y$  using the cramer's rule.

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

$$a = : \boxed{\phantom{000}} \quad b = : \boxed{\phantom{000}} \quad c = : \boxed{\phantom{000}}$$

$$d = : \boxed{\phantom{000}} \quad e = : \boxed{\phantom{000}} \quad f = : \boxed{\phantom{000}}$$

$$g = : \boxed{\phantom{000}} \quad h = : \boxed{\phantom{000}} \quad i = : \boxed{\phantom{000}}$$

$$|A_2| = : \boxed{\phantom{000}}$$

$$y = : \boxed{\phantom{000}}$$

d) Find  $z$  using the cramer's rule.

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

$$a = : \boxed{\phantom{000}} \quad b = : \boxed{\phantom{000}} \quad c = : \boxed{\phantom{000}}$$

$$d = : \boxed{\phantom{000}} \quad e = : \boxed{\phantom{000}} \quad f = : \boxed{\phantom{000}}$$

$$g = : \boxed{\phantom{000}} \quad h = : \boxed{\phantom{000}} \quad i = : \boxed{\phantom{000}}$$

$$|A_3| = : \boxed{\phantom{000}}$$



DELL



a) Find the cofactor matrix(C) of A.

$$C = \begin{bmatrix} a1 & a2 \\ a3 & a4 \end{bmatrix}$$

$$a1 = : \boxed{\phantom{00}} \quad a2 = : \boxed{\phantom{00}}$$

$$a3 = : \boxed{\phantom{00}} \quad a4 = : \boxed{\phantom{00}}$$

c) Find the determinant of A. :

d) Find the adjoint of A.

$$\text{adj } A = \begin{bmatrix} p & q \\ r & s \end{bmatrix}$$

$$p = : \boxed{\phantom{00}} \quad q = : \boxed{\phantom{00}}$$

$$r = : \boxed{\phantom{00}} \quad s = : \boxed{\phantom{00}}$$

d) Find the inverse of A and hence find the price of an adult ticket and a child ticket.

$$\text{Cost of an adult ticket} = : \boxed{\phantom{00}}$$

$$\text{Cost of a child ticket} = : \boxed{\phantom{00}}$$



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

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

Is  $f$  a One to one function?

Choose... ▾

Is  $f$  an onto function?

Choose... ▾

Does  $f$  has an inverse function?

Choose... ▾

≡ Quiz navigation

Finish attempt ...

Time left 1:10:17

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

Next page

a) Convert  $6728_{10}$  to following number

Equivalent Binary Number ( $x$ ) =

Equivalent Octal Number ( $y$ ) =

Equivalent Hexadecimal Number ( $z$ ) =

b) 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)  $11011001 + 10101110 = \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ }$  (Write your answer with 9 digits)

ii)  $11011001 - 10101110 = \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ }$  (Write your answer with 6 digits)

iii)  $11011101 \times 110 = \text{ } \text{ } \text{ } \text{ } \text{ } \text{ } \text{ }$  (Write your answer with 11 digits)

iv)  $101 \div 110 = \text{ } \text{ } \text{ } \text{ } \text{ } \text{ }$  (Write your answer with 6 digits)

$r =$  :

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 = :

$|A_1| =$  :

X = :

d) Find y using the cramer's rule.

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



file x  
x ⓘ

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11 answered  
1 out of  
g question

Consider the following 2 graphs.

G      H

Number of Components  
Number of Vertices  
Number of Edges  
Degree Sequence

G

6

H

6

Degree Sequence

Are they isomorphic?  
G and H are

Isomorphic  
 Not isomorphic

`u v w x y`

`a = : 0 b = : 1 c = : 0 d = : 1 e = : 1`

`f = : 1 g = : 1 h = : 1 i = : 1 j = : 1`

`k = : 0 l = : 1 m = : 0 n = : 0 o = : 0`

`p = : 0 q = : 0 r = : 0 s = : 0 t = : 0`

`u = : 0 v = : 0 w = : 0 x = : 0 y = : 0`

c) Degree sequence of a graph is 8, 6, 6, 4, 2, 2, 2, 2.

Does this graph exist?

Yes

No

Number of Edges of the above graph = :

Yes

No

Does it has an Euler path?



Yes

No

Does it has an Euler circuit?



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Find the following definite integral.

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

$$\int_1^6 12x^3 - 9x^2 + 2 \, dx = 3250$$





To buy a computer system, a customer can choose one of 5 monitors, one of 8 keyboards, one of 7 computers and one of 6 printers.

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

Answer = : 1680

b) Another customer wants to buy a monitor or 2 keyboards or a computer.

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

Answer = : 33



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

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:



If  $|A| = 128$  then find the cofactor matrix of A.

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

$C_{11}$  Choose... ▾

Choose...

-23

4

-8

15

-14

41

8

23

40

-10

10

24

-4

14

-40

Choose...

$C_{12}$

Choose...

$C_{13}$

Choose...

$C_{21}$

Choose...

$C_{22}$

Choose...

$C_{23}$

Choose...

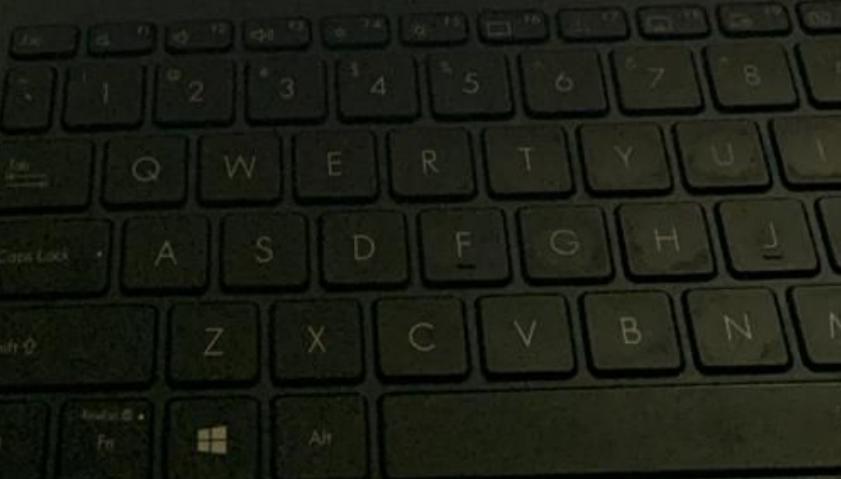
$C_{31}$

Choose...

$C_{32}$

Choose...

ASUS VivoBook



$r = : 50$     $s = : 40$

$c = : 3000$

$d = : 4200$

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

$$C = \begin{bmatrix} a1 & a2 \\ a3 & a4 \end{bmatrix}$$

$a1 = : 40$     $a2 = : -50$

$a3 = : -30$     $a4 = : 35$

c) Find the determinant of A. :  $-100$

d) Find the adjoint of A.

$$\text{adj } A = \begin{bmatrix} p & q \\ r & s \end{bmatrix}$$

$p = : 40$     $q = : 30$

$r = : -50$     $s = : 35$

d) Find the inverse of A and hence find the price of an adult ticket and a child ticket.

Cost of an adult ticket =  $: 60$

Cost of a child ticket =  $: 30$

	1	2	3	4	5
1	a	b	c	d	e
2	f	g	h	i	j
3	k	l	m	n	o
4	p	q	r	s	t
5	u	v	w	x	y

a = :  b = :  c = :  d = :  e = :   
 f = :  g = :  h = :  i = :  j = :   
 k = :  l = :  m = :  n = :  o = :   
 p = :  q = :  r = :  s = :  t = :   
 u = :  v = :  w = :  x = :  y = :

c) Degree sequence of a graph is 6, 5, 4, 3, 3, 2, 2, 1, 1, 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?

Yes

No

Moodle

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Question 5  
Not yet answered  
Marked out of 1.00  
Flag question

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

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

$C_{11}$  Choose... ▾

$C_{12}$  Choose... ▾

$C_{13}$  Choose... ▾

$C_{21}$  Choose... ▾

$C_{22}$  Choose... ▾

$C_{23}$  Choose... ▾

$C_{31}$  Choose... ▾

Quiz navigation

Finish attempt ...  
Time left 1:26:37

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

Activate Windows  
Go to Settings to activate Windows.

SAMSUNG