QUESTION 4D

$$x(t) := 2 + (2t) - 2\left(\cos\left(t - \frac{\pi}{10}\right)\right)$$

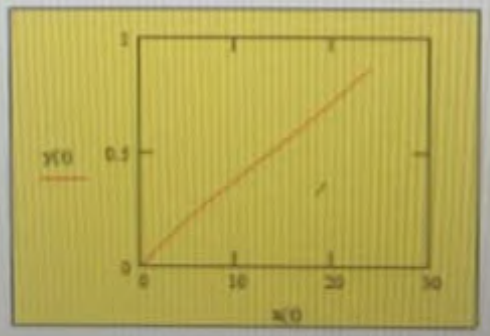
$t := 0 .. 10$

$y(t) =$

0
0.09
0.179
0.268
0.357
0.445
0.532
0.618
0.703
0.786
0.868

$x(t) =$

0
2.098
4.382
6.824
9.382
12
14.618
17.176
19.618
21.902
24



QUESTION 4B II

$$a := \begin{pmatrix} 1 & -2 & -1 & 3 \\ 2 & 3 & 0 & 1 \\ 1 & 0 & -4 & -2 \\ 0 & -1 & 3 & 1 \end{pmatrix} \qquad b := \begin{pmatrix} 10 \\ 8 \\ 3 \\ -7 \end{pmatrix}$$

$$c := a^{-1}$$

$$c = \begin{pmatrix} 0.027 & 0.24 & 0.493 & 0.667 \\ -0.093 & 0.16 & -0.227 & -0.333 \\ -0.107 & 0.04 & 0.027 & 0.333 \\ 0.227 & 0.04 & -0.307 & -0.333 \end{pmatrix}$$

$$d := c \cdot b$$

$$d = \begin{pmatrix} -1 \\ 2 \\ -3 \\ 4 \end{pmatrix}$$

$$k := d + 273$$

$$\boxed{\underline{k} = \begin{pmatrix} 272 \\ 275 \\ 270 \\ 277 \end{pmatrix}}$$

NAVIGATE EDIT BREAKPOINTS RUN

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Editor - C:\Users\LAWAL MUHAMMAD\Documents\MATLAB\muha4b.m

muhammad2.m | muha4b.m | muha4c.m | Untitled3

```
commandwindow
clear
clc
close all
a= [1 -2 -1 3; 2 3 0 1; 1 0 -4 -2; 0 -1 3 1]
b= [10; 8; 3; -7]
c= inv(a)*b
muha= c+273
```

```
commandwindow
clear
clc
close all
syms t
v= 110*cos(120*pi*t)
c=100
vp= diff(v)
i= vp*c
p= i*v
t= [0:0.01:0.35]
pn= subs(p)
vn= subs(v)
in= subs(i)
plot(t,vn,'b', t,in,'r', t,pn,'black')
xlabel('time(sec)')
ylabel('variable')
grid on
grid minor
legend ('voltage(m/s)','current(A)','power(w)')
```

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Editor - C:\Users\LAWAL MUHAMMAD\Documents\MATLAB\muhammad2.m

muhammad2.m | muha4b.m | muha4c.m | Untitled3

```
commandwindow
clear
clc
close all
p= 1
q= 2
r= 3
s= 4
t= 5
clear r
clear t
```