Figure 1

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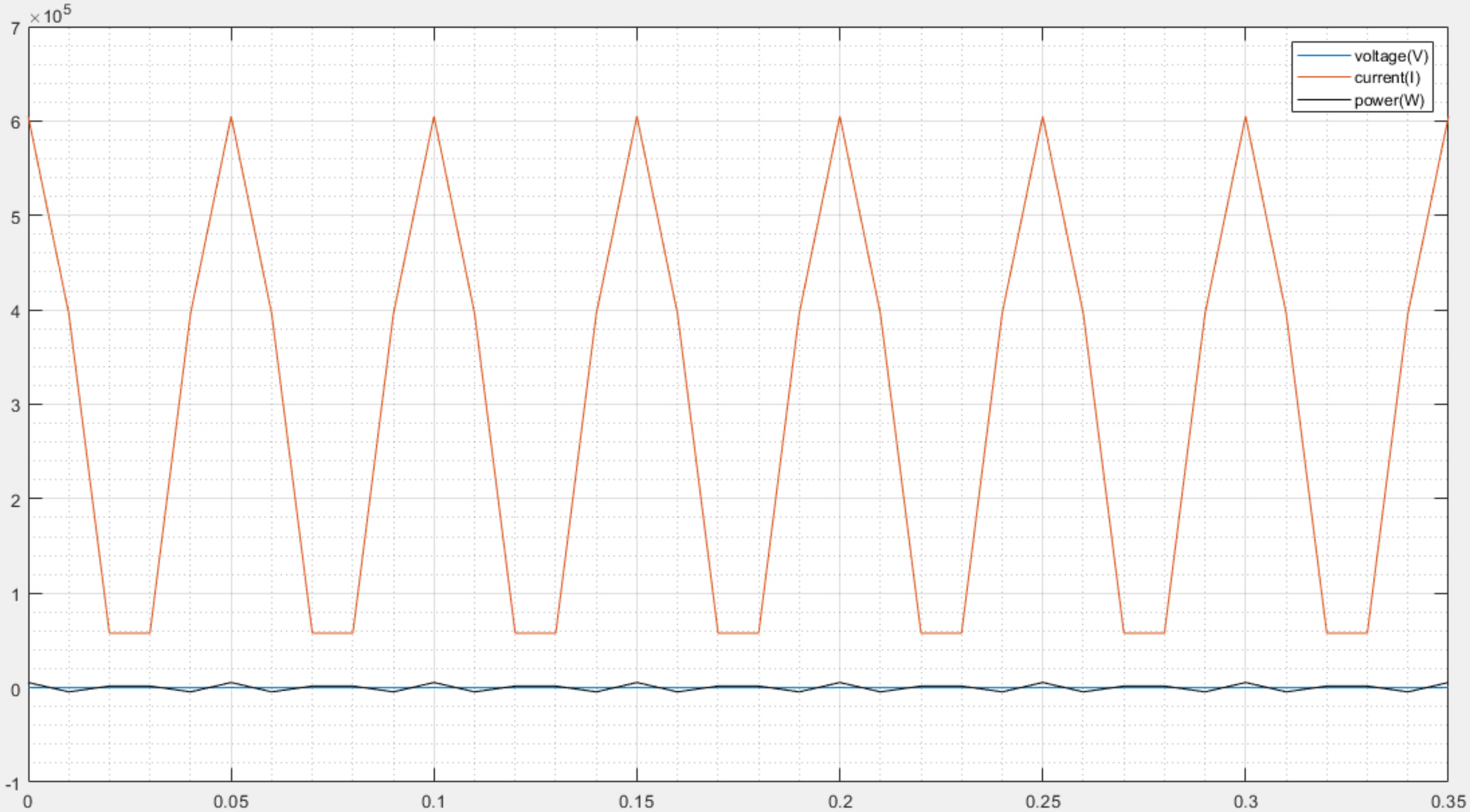


QUESTION4b

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

$$A^{-1} = \begin{pmatrix} 0.027 & 0.24 & 0.493 & 0.667 \\ -0.093 & 0.16 & -0.227 & -0.333 \\ -0.107 & 0.04 & 0.027 & 0.333 \\ 0.227 & 0.04 & -0.307 & -0.333 \end{pmatrix} \qquad T := A^{-1} \cdot B$$

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

$$Z := \begin{pmatrix} 273 \\ 273 \\ 273 \\ 273 \end{pmatrix}$$

$Tk := Z + T$

$$Tk = \begin{pmatrix} 272 \\ 275 \\ 270 \\ 277 \end{pmatrix}$$

$Tk1 := 272$

$Tk2 := 275$

$Tk3 := 270$

$Tk4 := 277$

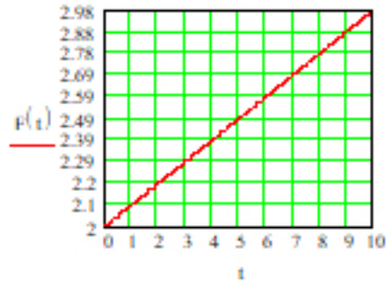
QUESTION4d

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

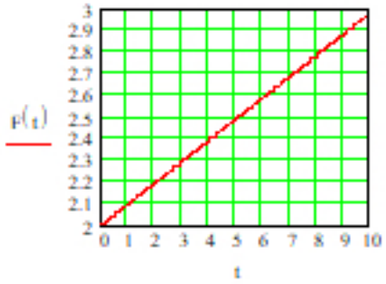
$$G(t) := 2\sin\left(\frac{\pi}{70}\right)t$$

i > seperatly

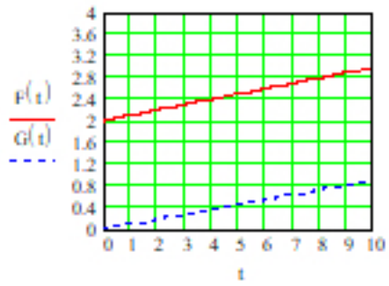
$0 \le t \le 10$



ib



ii > together



Press F1 for help.

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Details

Workspace

Name	Value
A	*4x4 double*
B	[10;8;3;-7]
C	*4x4 double*
D	[-1.0000;2.0000;-3.000...
E	[273;273;273;273]
F	[272;275;270;277]

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OYIBOMICHAELQUESTION4a.m | OYIBOMICHAELQUESTION4b.m

```
1 -  commandwindow
2 -  clc
3 -  clear
4 -  A=[1 -2 -1 3; 2 3 0 1; 1 0 -4 -2; 0 -1 3 1]
5 -  B=[10; 8; 3; -7]
6 -  C= inv(A)
7 -  D= C*B
8 -  E= [273; 273; 273; 273]
9 -  F= D+E
10
11
12
13
14
15
```

Command Window

```
F =

   272
   275
   270
   277

>>
```

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Details

Workspace

Name	Value
C	100
I	*1x1 sym*
In	*1x36 sym*
P	*1x1 sym*
Pn	*1x36 sym*
t	*1x36 double*
V	*1x1 sym*
Vn	*1x36 sym*
xlabel	'time(sec)'
ylabel	'variable'

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OYIBOMICHAELQUESTION4a.m | OYIBOMICHAELQUESTION4b.m | OYIBOMICHAELQUESTION4c.m

```
1  -    commandwindow
2  -    clear
3  -    clc
4  -    close all
5  -    syms t
6  -    V =110*cos(120*pi*t)
7  -    C=100
8  -    P= 0.5*C*V^2
9  -    I=P/V
10 -    t= [0:0.01:0.35]
11 -    Vn= subs(V,t)
12 -    Pn= subs(P,t)
13 -    In= subs(I,t)
14 -    plot(t,Vn,t,Pn,t,In)
15 -    xlabel=('time(sec)')
16 -    ylabel=('variable')
17 -    grid on
18 -    grid minor
19 -    legend ('voltage(V)','current(I)','power(W)')
```

Command Window

```
    'time(sec)'


ylabel =

    'variable'

fx >>
```

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Details

Workspace

Name	Value
P	50
Q	60
S	80

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OYIBOMICHAELQUESTION4a.m

```
1 -    P=50
2 -    Q=60
3 -    R=70
4 -    S=80
5 -    T=90
6 -    clear R
7 -    clear T
8 -    commandwindow
9 -    clc
```

Command Window

>>