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17/ENG01/019

```
commandwindow
clear
clc
close all
syms t
v(t)=110*cos(120*pi*t)
c=100*10^-6
q=c*v
t=0:0.1:0.35
fav=subs(q,t)
nyor=subs(v,t)
i=diff(q)
tiff=subs(i,t)
st eve=i*v
chim=subs(st eve,t)
vann=double(chim)
figure(1)
plot(t,nyor,'blue')
hold on
plot(t,tiff,'red')
hold on
plot(t,vann,'black')
axis tight
grid on
grid minor
xlabel('time(secs)')
ylabel('variable')
legend('voltage(v)','current(a)','power(w)')
```

$v(t) =$

$110 \cos(120 \pi t)$

$c =$

1.0000×10^{-4}

$q(t) =$

$(11 \cos(120 \pi t))/1000$

t =

0 0.1000 0.2000 0.3000

fav(t) =

[11/1000, 11/1000, 11/1000, 11/1000]

nyor(t) =

[110, 110, 110, 110]

i(t) =

$-(33\pi \sin(120\pi t))/25$

tiff(t) =

[0, 0, 0, 0]

st eve(t) =

$-(726\pi \cos(120\pi t) \sin(120\pi t))/5$

chin(t) =

[0, 0, 0, 0]

vann =

0 0 0 0