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```
clc  
clear all
```

Part 1

Autar Kaw Section 002 Fall 2012

Part 2

```
A=[2 3 4 ; 5.2 6 7; 8 9 1]  
B=[4 6; 78 5;1 1]  
C=A*B
```

A =

2.0000	3.0000	4.0000
5.2000	6.0000	7.0000
8.0000	9.0000	1.0000

B =

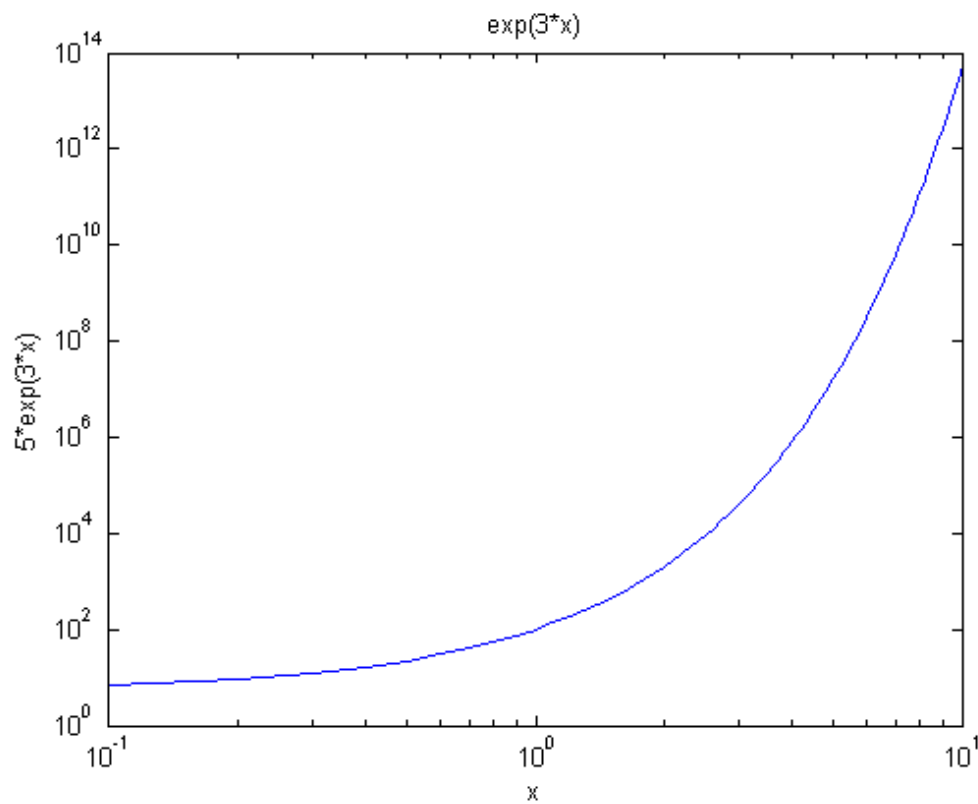
4	6
78	5
1	1

C =

246.0000	31.0000
495.8000	68.2000
735.0000	94.0000

Part 3

```
figure(1)  
x=[0:0.1:10];  
y=5*exp(3*x);  
loglog(x,y)  
title('exp(3*x)')  
xlabel('x')  
ylabel('5*exp(3*x)')
```



Part 4

```
syms t
v=t^2+log(2*t)
v5=double(subs(v,t,5))
```

v =

$$t^2 + \log(2 t)$$

v5 =

27.3026

Part 5

```
v=5*exp(-t)+sin(2*t)
acc=diff(v,t)
acc5=subs(acc,t,5)
```

v =

$$5 \exp(-t) + \sin(2 t)$$

acc =

$$-5 \exp(-t) + 2 \cos(2 t)$$

acc5 =

$$-5 \exp(-5) + 2 \cos(10)$$

Part 6

```
v=5*log(t)*(sin(2*t))^2
distance=int(v,t,2,5)
distance=double(distance)
```

v =

$$5 \sin(2t)^2 \log(t)$$

distance =

$$\begin{aligned} &5/8 \log(2) \sin(8) - 15/2 - 5 \log(2) - 5/8 \sin(8) - 5/8 \log(5) \sin(20) \\ &+ 25/2 \log(5) + 5/8 \sin(20) \end{aligned}$$

distance =

$$8.6463$$

Part 7

```
lhside=5*t^3+4*t^2+6
rhside=10
eqn=[char(lhside) '=' num2str(rhside)]
tim=double(solve(eqn,t))
timcorrect=tim(1)
```

lhside =

$$5t^3 + 4t^2 + 6$$

rhside =

$$10$$

eqn =

$$5t^3 + 4t^2 + 6 = 10$$

tim =

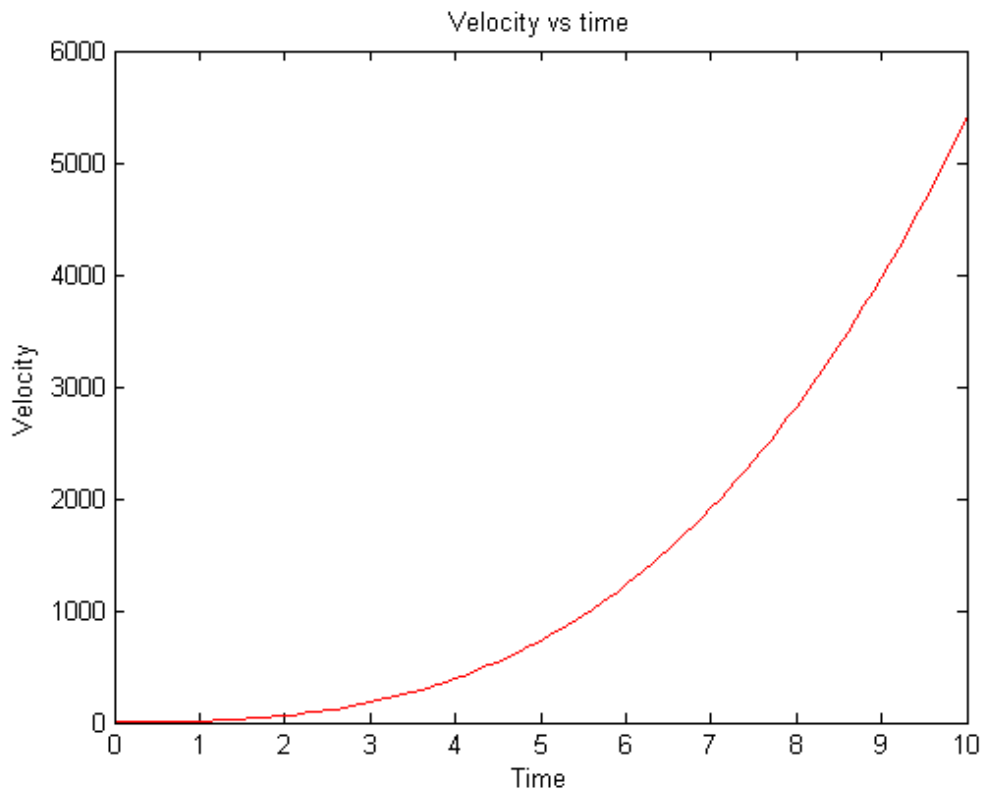
$$\begin{aligned} &0.7244 \\ &-0.7622 + 0.7234i \\ &-0.7622 - 0.7234i \end{aligned}$$

timcorrect =

$$0.7244$$

Part 8

```
figure(2)
tt=0:0.1:10;
v=5*t^3+4*t^2+6;
vv=double(subs(v,t,tt));
plot(tt,vv,'r-')
title('Velocity vs time')
xlabel('Time')
ylabel('Velocity')
```



Published with MATLAB® 7.10