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DEPT; MECHANICAL ENGINEERING
MATRIC NO.; 16/ENG06/011
COURSE; ENGINEERING MATHEMATICS 1(ENG 281)
DATE; 20TH OF NOVEMBER, 2017.

QUESTION 1

input

```
commandwindow
clc
clear
a=[0 10 4 -2; -3 -17 1 2; 1 1 1 0; 8 -34 16 -10]
b=[-4;2;6;4]
c=inv(a)
x=c*b
format short
```

output..

a =

```
0 10 4 -2
-3 -17 1 2
1 1 1 0
8 -34 16 -10
```

b =

-4

2

6

4

c =

```
-0.1786 -0.1020 0.5714 0.0153
0.0357 -0.0153 0.0357 -0.0102
0.1429 0.1173 0.3929 -0.0051
-0.0357 0.1582 0.9643 -0.0612
```

x =

```
4.0000
-0.0000
2.0000
6.0000
```

QUESTION 2

input

```
commandwindow
clc
clear
syms t
d=1.5*exp(-0.75*t)*sin(0.85*t)+(0.375*t)
tn=(0:0.01:2.5)
v=diff(d)
a=diff(v)
vn=subs(v,tn)
an=subs(a,tn)
figure(1)
plot(tn,vn,tn,an)
```

```

        grid on
        grid minor
        axis tight
        xlabel('time(sec)')
        ylabel('variable')
        legend('velocity(km/min)', 'acceleration(km/min^2)')

```

output

d =

$$(3*t)/8 + (3*\sin((17*t)/20)*\exp(-(3*t)/4))/2$$

tn =

Columns 1 through 12

	0	0.0100	0.0200	0.0300	0.0400	0.0500
0.0600	0.0700	0.0800	0.0900	0.1000	0.1100	

Columns 13 through 24

	0.1200	0.1300	0.1400	0.1500	0.1600	0.1700
0.1800	0.1900	0.2000	0.2100	0.2200	0.2300	

Columns 25 through 36

	0.2400	0.2500	0.2600	0.2700	0.2800	0.2900
0.3000	0.3100	0.3200	0.3300	0.3400	0.3500	

Columns 37 through 48

	0.3600	0.3700	0.3800	0.3900	0.4000	0.4100
0.4200	0.4300	0.4400	0.4500	0.4600	0.4700	

Columns 49 through 60

	0.4800	0.4900	0.5000	0.5100	0.5200	0.5300
0.5400	0.5500	0.5600	0.5700	0.5800	0.5900	

Columns 61 through 72

	0.6000	0.6100	0.6200	0.6300	0.6400	0.6500
0.6600	0.6700	0.6800	0.6900	0.7000	0.7100	

Columns 73 through 84

	0.7200	0.7300	0.7400	0.7500	0.7600	0.7700
0.7800	0.7900	0.8000	0.8100	0.8200	0.8300	

Columns 85 through 96

0.8400 0.8500 0.8600 0.8700 0.8800 0.8900
0.9000 0.9100 0.9200 0.9300 0.9400 0.9500

Columns 97 through 108

0.9600 0.9700 0.9800 0.9900 1.0000 1.0100
1.0200 1.0300 1.0400 1.0500 1.0600 1.0700

Columns 109 through 120

1.0800 1.0900 1.1000 1.1100 1.1200 1.1300
1.1400 1.1500 1.1600 1.1700 1.1800 1.1900

Columns 121 through 132

1.2000 1.2100 1.2200 1.2300 1.2400 1.2500
1.2600 1.2700 1.2800 1.2900 1.3000 1.3100

Columns 133 through 144

1.3200 1.3300 1.3400 1.3500 1.3600 1.3700
1.3800 1.3900 1.4000 1.4100 1.4200 1.4300

Columns 145 through 156

1.4400 1.4500 1.4600 1.4700 1.4800 1.4900
1.5000 1.5100 1.5200 1.5300 1.5400 1.5500

Columns 157 through 168

1.5600 1.5700 1.5800 1.5900 1.6000 1.6100
1.6200 1.6300 1.6400 1.6500 1.6600 1.6700

Columns 169 through 180

1.6800 1.6900 1.7000 1.7100 1.7200 1.7300
1.7400 1.7500 1.7600 1.7700 1.7800 1.7900

Columns 181 through 192

1.8000 1.8100 1.8200 1.8300 1.8400 1.8500
1.8600 1.8700 1.8800 1.8900 1.9000 1.9100

Columns 193 through 204

1.9200 1.9300 1.9400 1.9500 1.9600 1.9700
1.9800 1.9900 2.0000 2.0100 2.0200 2.0300

Columns 205 through 216

2.0400 2.0500 2.0600 2.0700 2.0800 2.0900
2.1000 2.1100 2.1200 2.1300 2.1400 2.1500

Columns 217 through 228

2.1600 2.1700 2.1800 2.1900 2.2000 2.2100
2.2200 2.2300 2.2400 2.2500 2.2600 2.2700

Columns 229 through 240

2.2800 2.2900 2.3000 2.3100 2.3200 2.3300
2.3400 2.3500 2.3600 2.3700 2.3800 2.3900

Columns 241 through 251

2.4000 2.4100 2.4200 2.4300 2.4400 2.4500
2.4600 2.4700 2.4800 2.4900 2.5000

v =

$$(51*\cos((17*t)/20)*\exp(-(3*t)/4))/40 - (9*\sin((17*t)/20)*\exp(-(3*t)/4))/8 + 3/8$$

a =

$$- (153*\cos((17*t)/20)*\exp(-(3*t)/4))/80 - (6*\sin((17*t)/20)*\exp(-(3*t)/4))/25$$

vn =

$$[33/20, (51*\cos(17/2000)*\exp(-3/400))/40 - (9*\exp(-3/400)*\sin(17/2000))/8 + 3/8, (51*\cos(17/1000)*\exp(-3/200))/40 - (9*\exp(-3/200)*\sin(17/1000))/8 + 3/8, (51*\cos(51/2000)*\exp(-9/400))/40 - (9*\exp(-9/400)*\sin(51/2000))/8 + 3/8, (51*\cos(17/500)*\exp(-3/100))/40 - (9*\exp(-3/100)*\sin(17/500))/8 + 3/8, (51*\cos(17/400)*\exp(-3/80))/40 - (9*\exp(-3/80)*\sin(17/400))/8 + 3/8, (51*\cos(51/1000)*\exp(-9/200))/40 - (9*\exp(-9/200)*\sin(51/1000))/8 + 3/8, (51*\cos(119/2000)*\exp(-21/400))/40 - (9*\exp(-21/400)*\sin(119/2000))/8 + 3/8, (51*\cos(17/250)*\exp(-3/50))/40 - (9*\exp(-3/50)*\sin(17/250))/8 + 3/8, (51*\cos(153/2000)*\exp(-27/400))/40 - (9*\exp(-27/400)*\sin(153/2000))/8 + 3/8, (51*\cos(17/200)*\exp(-3/40))/40 - (9*\exp(-3/40)*\sin(17/200))/8 + 3/8, (51*\cos(187/2000)*\exp(-33/400))/40 - (9*\exp(-33/400)*\sin(187/2000))/8 + 3/8, (51*\cos(51/500)*\exp(-9/100))/40 - (9*\exp(-9/100)*\sin(51/500))/8 + 3/8, (51*\cos(221/2000)*\exp(-39/400))/40 - (9*\exp(-39/400)*\sin(221/2000))/8 + 3/8, (51*\cos(119/1000)*\exp(-$$

$21/200)/40 - (9*\exp(-21/200)*\sin(119/1000))/8 + 3/8,$
 $(51*\cos(51/400)*\exp(-9/80))/40 - (9*\exp(-9/80)*\sin(51/400))/8$
 $+ 3/8, (51*\cos(17/125)*\exp(-3/25))/40 - (9*\exp(-$
 $3/25)*\sin(17/125))/8 + 3/8, (51*\cos(289/2000)*\exp(-51/400))/40$
 $- (9*\exp(-51/400)*\sin(289/2000))/8 + 3/8,$
 $(51*\cos(153/1000)*\exp(-27/200))/40 - (9*\exp(-$
 $27/200)*\sin(153/1000))/8 + 3/8, (51*\cos(323/2000)*\exp(-$
 $57/400))/40 - (9*\exp(-57/400)*\sin(323/2000))/8 + 3/8,$
 $(51*\cos(17/100)*\exp(-3/20))/40 - (9*\exp(-3/20)*\sin(17/100))/8$
 $+ 3/8, (51*\cos(357/2000)*\exp(-63/400))/40 - (9*\exp(-$
 $63/400)*\sin(357/2000))/8 + 3/8, (51*\cos(187/1000)*\exp(-$
 $33/200))/40 - (9*\exp(-33/200)*\sin(187/1000))/8 + 3/8,$
 $(51*\cos(391/2000)*\exp(-69/400))/40 - (9*\exp(-$
 $69/400)*\sin(391/2000))/8 + 3/8, (51*\cos(51/250)*\exp(-9/50))/40$
 $- (9*\exp(-9/50)*\sin(51/250))/8 + 3/8, (51*\cos(17/80)*\exp(-$
 $3/16))/40 - (9*\exp(-3/16)*\sin(17/80))/8 + 3/8,$
 $(51*\cos(221/1000)*\exp(-39/200))/40 - (9*\exp(-$
 $39/200)*\sin(221/1000))/8 + 3/8, (51*\cos(459/2000)*\exp(-$
 $81/400))/40 - (9*\exp(-81/400)*\sin(459/2000))/8 + 3/8,$
 $(51*\cos(119/500)*\exp(-21/100))/40 - (9*\exp(-$
 $21/100)*\sin(119/500))/8 + 3/8, (51*\cos(493/2000)*\exp(-$
 $87/400))/40 - (9*\exp(-87/400)*\sin(493/2000))/8 + 3/8,$
 $(51*\cos(51/200)*\exp(-9/40))/40 - (9*\exp(-9/40)*\sin(51/200))/8$
 $+ 3/8, (51*\cos(527/2000)*\exp(-93/400))/40 - (9*\exp(-$
 $93/400)*\sin(527/2000))/8 + 3/8, (51*\cos(34/125)*\exp(-6/25))/40$
 $- (9*\exp(-6/25)*\sin(34/125))/8 + 3/8, (51*\cos(561/2000)*\exp(-$
 $99/400))/40 - (9*\exp(-99/400)*\sin(561/2000))/8 + 3/8,$
 $(51*\cos(289/1000)*\exp(-51/200))/40 - (9*\exp(-$
 $51/200)*\sin(289/1000))/8 + 3/8, (51*\cos(119/400)*\exp(-$
 $21/80))/40 - (9*\exp(-21/80)*\sin(119/400))/8 + 3/8,$
 $(51*\cos(153/500)*\exp(-27/100))/40 - (9*\exp(-$
 $27/100)*\sin(153/500))/8 + 3/8, (51*\cos(629/2000)*\exp(-$
 $111/400))/40 - (9*\exp(-111/400)*\sin(629/2000))/8 + 3/8,$
 $(51*\cos(323/1000)*\exp(-57/200))/40 - (9*\exp(-$
 $57/200)*\sin(323/1000))/8 + 3/8, (51*\cos(663/2000)*\exp(-$
 $117/400))/40 - (9*\exp(-117/400)*\sin(663/2000))/8 + 3/8,$
 $(51*\cos(17/50)*\exp(-3/10))/40 - (9*\exp(-3/10)*\sin(17/50))/8 +$
 $3/8, (51*\cos(697/2000)*\exp(-123/400))/40 - (9*\exp(-$
 $123/400)*\sin(697/2000))/8 + 3/8, (51*\cos(357/1000)*\exp(-$
 $63/200))/40 - (9*\exp(-63/200)*\sin(357/1000))/8 + 3/8,$
 $(51*\cos(731/2000)*\exp(-129/400))/40 - (9*\exp(-$
 $129/400)*\sin(731/2000))/8 + 3/8, (51*\cos(187/500)*\exp(-$
 $33/100))/40 - (9*\exp(-33/100)*\sin(187/500))/8 + 3/8,$
 $(51*\cos(153/400)*\exp(-27/80))/40 - (9*\exp(-$
 $27/80)*\sin(153/400))/8 + 3/8, (51*\cos(391/1000)*\exp(-$
 $69/200))/40 - (9*\exp(-69/200)*\sin(391/1000))/8 + 3/8,$
 $(51*\cos(799/2000)*\exp(-141/400))/40 - (9*\exp(-$
 $141/400)*\sin(799/2000))/8 + 3/8, (51*\cos(51/125)*\exp(-$
 $9/25))/40 - (9*\exp(-9/25)*\sin(51/125))/8 + 3/8,$
 $(51*\cos(833/2000)*\exp(-147/400))/40 - (9*\exp(-$
 $147/400)*\sin(833/2000))/8 + 3/8, (51*\cos(17/40)*\exp(-3/8))/40$

$$\begin{aligned}
& - (9 \exp(-3/8) \sin(17/40))/8 + 3/8, (51 \cos(867/2000) \exp(-153/400))/40 - (9 \exp(-153/400) \sin(867/2000))/8 + 3/8, \\
& (51 \cos(221/500) \exp(-39/100))/40 - (9 \exp(-39/100) \sin(221/500))/8 + 3/8, (51 \cos(901/2000) \exp(-159/400))/40 - (9 \exp(-159/400) \sin(901/2000))/8 + 3/8, \\
& (51 \cos(459/1000) \exp(-81/200))/40 - (9 \exp(-81/200) \sin(459/1000))/8 + 3/8, (51 \cos(187/400) \exp(-33/80))/40 - (9 \exp(-33/80) \sin(187/400))/8 + 3/8, \\
& (51 \cos(119/250) \exp(-21/50))/40 - (9 \exp(-21/50) \sin(119/250))/8 + 3/8, (51 \cos(969/2000) \exp(-171/400))/40 - (9 \exp(-171/400) \sin(969/2000))/8 + 3/8, \\
& (51 \cos(493/1000) \exp(-87/200))/40 - (9 \exp(-87/200) \sin(493/1000))/8 + 3/8, (51 \cos(1003/2000) \exp(-177/400))/40 - (9 \exp(-177/400) \sin(1003/2000))/8 + 3/8, \\
& (51 \cos(51/100) \exp(-9/20))/40 - (9 \exp(-9/20) \sin(51/100))/8 + 3/8, (51 \cos(1037/2000) \exp(-183/400))/40 - (9 \exp(-183/400) \sin(1037/2000))/8 + 3/8, \\
& (51 \cos(527/1000) \exp(-93/200))/40 - (9 \exp(-93/200) \sin(527/1000))/8 + 3/8, (51 \cos(1071/2000) \exp(-189/400))/40 - (9 \exp(-189/400) \sin(1071/2000))/8 + 3/8, \\
& (51 \cos(68/125) \exp(-12/25))/40 - (9 \exp(-12/25) \sin(68/125))/8 + 3/8, (51 \cos(221/400) \exp(-39/80))/40 - (9 \exp(-39/80) \sin(221/400))/8 + 3/8, \\
& (51 \cos(561/1000) \exp(-99/200))/40 - (9 \exp(-99/200) \sin(561/1000))/8 + 3/8, (51 \cos(1139/2000) \exp(-201/400))/40 - (9 \exp(-201/400) \sin(1139/2000))/8 + 3/8, \\
& (51 \cos(289/500) \exp(-51/100))/40 - (9 \exp(-51/100) \sin(289/500))/8 + 3/8, (51 \cos(1173/2000) \exp(-207/400))/40 - (9 \exp(-207/400) \sin(1173/2000))/8 + 3/8, \\
& (51 \cos(119/200) \exp(-21/40))/40 - (9 \exp(-21/40) \sin(119/200))/8 + 3/8, (51 \cos(1207/2000) \exp(-213/400))/40 - (9 \exp(-213/400) \sin(1207/2000))/8 + 3/8, \\
& (51 \cos(153/250) \exp(-27/50))/40 - (9 \exp(-27/50) \sin(153/250))/8 + 3/8, (51 \cos(1241/2000) \exp(-219/400))/40 - (9 \exp(-219/400) \sin(1241/2000))/8 + 3/8, \\
& (51 \cos(629/1000) \exp(-111/200))/40 - (9 \exp(-111/200) \sin(629/1000))/8 + 3/8, (51 \cos(51/80) \exp(-9/16))/40 - (9 \exp(-9/16) \sin(51/80))/8 + 3/8, \\
& (51 \cos(323/500) \exp(-57/100))/40 - (9 \exp(-57/100) \sin(323/500))/8 + 3/8, (51 \cos(1309/2000) \exp(-231/400))/40 - (9 \exp(-231/400) \sin(1309/2000))/8 + 3/8, \\
& (51 \cos(663/1000) \exp(-117/200))/40 - (9 \exp(-117/200) \sin(663/1000))/8 + 3/8, (51 \cos(1343/2000) \exp(-237/400))/40 - (9 \exp(-237/400) \sin(1343/2000))/8 + 3/8, \\
& (51 \cos(17/25) \exp(-3/5))/40 - (9 \exp(-3/5) \sin(17/25))/8 + 3/8, (51 \cos(1377/2000) \exp(-243/400))/40 - (9 \exp(-243/400) \sin(1377/2000))/8 + 3/8, \\
& (51 \cos(697/1000) \exp(-123/200))/40 - (9 \exp(-123/200) \sin(697/1000))/8 + 3/8, (51 \cos(1411/2000) \exp(-249/400))/40 - (9 \exp(-249/400) \sin(1411/2000))/8 + 3/8, \\
& (51 \cos(357/500) \exp(-63/100))/40 - (9 \exp(-63/100) \sin(357/500))/8 + 3/8, (51 \cos(289/400) \exp(-51/80))/40 - (9 \exp(-51/80) \sin(289/400))/8 + 3/8,
\end{aligned}$$

$51/80) * \sin(289/400)) / 8 + 3/8, (51 * \cos(731/1000) * \exp(-129/200)) / 40 - (9 * \exp(-129/200) * \sin(731/1000)) / 8 + 3/8,$
 $(51 * \cos(1479/2000) * \exp(-261/400)) / 40 - (9 * \exp(-261/400) * \sin(1479/2000)) / 8 + 3/8, (51 * \cos(187/250) * \exp(-33/50)) / 40 - (9 * \exp(-33/50) * \sin(187/250)) / 8 + 3/8,$
 $(51 * \cos(1513/2000) * \exp(-267/400)) / 40 - (9 * \exp(-267/400) * \sin(1513/2000)) / 8 + 3/8, (51 * \cos(153/200) * \exp(-27/40)) / 40 - (9 * \exp(-27/40) * \sin(153/200)) / 8 + 3/8,$
 $(51 * \cos(1547/2000) * \exp(-273/400)) / 40 - (9 * \exp(-273/400) * \sin(1547/2000)) / 8 + 3/8, (51 * \cos(391/500) * \exp(-69/100)) / 40 - (9 * \exp(-69/100) * \sin(391/500)) / 8 + 3/8,$
 $(51 * \cos(1581/2000) * \exp(-279/400)) / 40 - (9 * \exp(-279/400) * \sin(1581/2000)) / 8 + 3/8, (51 * \cos(799/1000) * \exp(-141/200)) / 40 - (9 * \exp(-141/200) * \sin(799/1000)) / 8 + 3/8,$
 $(51 * \cos(323/400) * \exp(-57/80)) / 40 - (9 * \exp(-57/80) * \sin(323/400)) / 8 + 3/8, (51 * \cos(102/125) * \exp(-18/25)) / 40 - (9 * \exp(-18/25) * \sin(102/125)) / 8 + 3/8,$
 $(51 * \cos(1649/2000) * \exp(-291/400)) / 40 - (9 * \exp(-291/400) * \sin(1649/2000)) / 8 + 3/8, (51 * \cos(833/1000) * \exp(-147/200)) / 40 - (9 * \exp(-147/200) * \sin(833/1000)) / 8 + 3/8,$
 $(51 * \cos(1683/2000) * \exp(-297/400)) / 40 - (9 * \exp(-297/400) * \sin(1683/2000)) / 8 + 3/8, (51 * \cos(17/20) * \exp(-3/4)) / 40 - (9 * \exp(-3/4) * \sin(17/20)) / 8 + 3/8,$
 $(51 * \cos(1717/2000) * \exp(-303/400)) / 40 - (9 * \exp(-303/400) * \sin(1717/2000)) / 8 + 3/8,$
 $(51 * \cos(867/1000) * \exp(-153/200)) / 40 - (9 * \exp(-153/200) * \sin(867/1000)) / 8 + 3/8, (51 * \cos(1751/2000) * \exp(-309/400)) / 40 - (9 * \exp(-309/400) * \sin(1751/2000)) / 8 + 3/8,$
 $(51 * \cos(221/250) * \exp(-39/50)) / 40 - (9 * \exp(-39/50) * \sin(221/250)) / 8 + 3/8, (51 * \cos(357/400) * \exp(-63/80)) / 40 - (9 * \exp(-63/80) * \sin(357/400)) / 8 + 3/8,$
 $(51 * \cos(901/1000) * \exp(-159/200)) / 40 - (9 * \exp(-159/200) * \sin(901/1000)) / 8 + 3/8, (51 * \cos(1819/2000) * \exp(-321/400)) / 40 - (9 * \exp(-321/400) * \sin(1819/2000)) / 8 + 3/8,$
 $(51 * \cos(459/500) * \exp(-81/100)) / 40 - (9 * \exp(-81/100) * \sin(459/500)) / 8 + 3/8, (51 * \cos(1853/2000) * \exp(-327/400)) / 40 - (9 * \exp(-327/400) * \sin(1853/2000)) / 8 + 3/8,$
 $(51 * \cos(187/200) * \exp(-33/40)) / 40 - (9 * \exp(-33/40) * \sin(187/200)) / 8 + 3/8, (51 * \cos(1887/2000) * \exp(-333/400)) / 40 - (9 * \exp(-333/400) * \sin(1887/2000)) / 8 + 3/8,$
 $(51 * \cos(119/125) * \exp(-21/25)) / 40 - (9 * \exp(-21/25) * \sin(119/125)) / 8 + 3/8, (51 * \cos(1921/2000) * \exp(-339/400)) / 40 - (9 * \exp(-339/400) * \sin(1921/2000)) / 8 + 3/8,$
 $(51 * \cos(969/1000) * \exp(-171/200)) / 40 - (9 * \exp(-171/200) * \sin(969/1000)) / 8 + 3/8, (51 * \cos(391/400) * \exp(-69/80)) / 40 - (9 * \exp(-69/80) * \sin(391/400)) / 8 + 3/8,$
 $(51 * \cos(493/500) * \exp(-87/100)) / 40 - (9 * \exp(-87/100) * \sin(493/500)) / 8 + 3/8, (51 * \cos(1989/2000) * \exp(-351/400)) / 40 - (9 * \exp(-351/400) * \sin(1989/2000)) / 8 + 3/8,$
 $(51 * \cos(1003/1000) * \exp(-177/200)) / 40 - (9 * \exp(-177/200) * \sin(1003/1000)) / 8 + 3/8, (51 * \cos(2023/2000) * \exp(-357/400)) / 40 - (9 * \exp(-357/400) * \sin(2023/2000)) / 8 + 3/8,$

$(51 \cdot \cos(51/50) \cdot \exp(-9/10))/40 - (9 \cdot \exp(-9/10) \cdot \sin(51/50))/8 + 3/8,$
 $(51 \cdot \cos(2057/2000) \cdot \exp(-363/400))/40 - (9 \cdot \exp(-363/400) \cdot \sin(2057/2000))/8 + 3/8,$
 $(51 \cdot \cos(1037/1000) \cdot \exp(-183/200))/40 - (9 \cdot \exp(-183/200) \cdot \sin(1037/1000))/8 + 3/8,$
 $(51 \cdot \cos(2091/2000) \cdot \exp(-369/400))/40 - (9 \cdot \exp(-369/400) \cdot \sin(2091/2000))/8 + 3/8,$
 $(51 \cdot \cos(527/500) \cdot \exp(-93/100))/40 - (9 \cdot \exp(-93/100) \cdot \sin(527/500))/8 + 3/8,$
 $(51 \cdot \cos(17/16) \cdot \exp(-15/16))/40 - (9 \cdot \exp(-15/16) \cdot \sin(17/16))/8 + 3/8,$
 $(51 \cdot \cos(1071/1000) \cdot \exp(-189/200))/40 - (9 \cdot \exp(-189/200) \cdot \sin(1071/1000))/8 + 3/8,$
 $(51 \cdot \cos(2159/2000) \cdot \exp(-381/400))/40 - (9 \cdot \exp(-381/400) \cdot \sin(2159/2000))/8 + 3/8,$
 $(51 \cdot \cos(136/125) \cdot \exp(-24/25))/40 - (9 \cdot \exp(-24/25) \cdot \sin(136/125))/8 + 3/8,$
 $(51 \cdot \cos(2193/2000) \cdot \exp(-387/400))/40 - (9 \cdot \exp(-387/400) \cdot \sin(2193/2000))/8 + 3/8,$
 $(51 \cdot \cos(221/200) \cdot \exp(-39/40))/40 - (9 \cdot \exp(-39/40) \cdot \sin(221/200))/8 + 3/8,$
 $(51 \cdot \cos(2227/2000) \cdot \exp(-393/400))/40 - (9 \cdot \exp(-393/400) \cdot \sin(2227/2000))/8 + 3/8,$
 $(51 \cdot \cos(561/500) \cdot \exp(-99/100))/40 - (9 \cdot \exp(-99/100) \cdot \sin(561/500))/8 + 3/8,$
 $(51 \cdot \cos(2261/2000) \cdot \exp(-399/400))/40 - (9 \cdot \exp(-399/400) \cdot \sin(2261/2000))/8 + 3/8,$
 $(51 \cdot \cos(1139/1000) \cdot \exp(-201/200))/40 - (9 \cdot \exp(-201/200) \cdot \sin(1139/1000))/8 + 3/8,$
 $(51 \cdot \cos(459/400) \cdot \exp(-81/80))/40 - (9 \cdot \exp(-81/80) \cdot \sin(459/400))/8 + 3/8,$
 $(51 \cdot \cos(289/250) \cdot \exp(-51/50))/40 - (9 \cdot \exp(-51/50) \cdot \sin(289/250))/8 + 3/8,$
 $(51 \cdot \cos(2329/2000) \cdot \exp(-411/400))/40 - (9 \cdot \exp(-411/400) \cdot \sin(2329/2000))/8 + 3/8,$
 $(51 \cdot \cos(1173/1000) \cdot \exp(-207/200))/40 - (9 \cdot \exp(-207/200) \cdot \sin(1173/1000))/8 + 3/8,$
 $(51 \cdot \cos(2363/2000) \cdot \exp(-417/400))/40 - (9 \cdot \exp(-417/400) \cdot \sin(2363/2000))/8 + 3/8,$
 $(51 \cdot \cos(119/100) \cdot \exp(-21/20))/40 - (9 \cdot \exp(-21/20) \cdot \sin(119/100))/8 + 3/8,$
 $(51 \cdot \cos(2397/2000) \cdot \exp(-423/400))/40 - (9 \cdot \exp(-423/400) \cdot \sin(2397/2000))/8 + 3/8,$
 $(51 \cdot \cos(1207/1000) \cdot \exp(-213/200))/40 - (9 \cdot \exp(-213/200) \cdot \sin(1207/1000))/8 + 3/8,$
 $(51 \cdot \cos(2431/2000) \cdot \exp(-429/400))/40 - (9 \cdot \exp(-429/400) \cdot \sin(2431/2000))/8 + 3/8,$
 $(51 \cdot \cos(153/125) \cdot \exp(-27/25))/40 - (9 \cdot \exp(-27/25) \cdot \sin(153/125))/8 + 3/8,$
 $(51 \cdot \cos(493/400) \cdot \exp(-87/80))/40 - (9 \cdot \exp(-87/80) \cdot \sin(493/400))/8 + 3/8,$
 $(51 \cdot \cos(1241/1000) \cdot \exp(-219/200))/40 - (9 \cdot \exp(-219/200) \cdot \sin(1241/1000))/8 + 3/8,$
 $(51 \cdot \cos(2499/2000) \cdot \exp(-441/400))/40 - (9 \cdot \exp(-441/400) \cdot \sin(2499/2000))/8 + 3/8,$
 $(51 \cdot \cos(629/500) \cdot \exp(-111/100))/40 - (9 \cdot \exp(-111/100) \cdot \sin(629/500))/8 + 3/8,$
 $(51 \cdot \cos(2533/2000) \cdot \exp(-447/400))/40 - (9 \cdot \exp(-447/400) \cdot \sin(2533/2000))/8 + 3/8,$
 $(51 \cdot \cos(51/40) \cdot \exp(-9/8))/40 - (9 \cdot \exp(-9/8) \cdot \sin(51/40))/8 + 3/8,$
 $(51 \cdot \cos(2567/2000) \cdot \exp(-453/400))/40 - (9 \cdot \exp(-453/400) \cdot \sin(2567/2000))/8 + 3/8,$
 $(51 \cdot \cos(323/250) \cdot \exp(-57/50))/40 - (9 \cdot \exp(-57/50) \cdot \sin(323/250))/8 + 3/8,$
 $(51 \cdot \cos(2601/2000) \cdot \exp(-459/400))/40 - (9 \cdot \exp(-459/400) \cdot \sin(2601/2000))/8 + 3/8,$
 $(51 \cdot \cos(1309/1000) \cdot \exp(-231/200))/40 - (9 \cdot \exp(-231/200) \cdot \sin(1309/1000))/8 + 3/8,$

$(51 \cdot \cos(527/400) \cdot \exp(-93/80))/40 - (9 \cdot \exp(-93/80) \cdot \sin(527/400))/8 + 3/8,$
 $(51 \cdot \cos(663/500) \cdot \exp(-117/100))/40 - (9 \cdot \exp(-117/100) \cdot \sin(663/500))/8 + 3/8,$
 $(51 \cdot \cos(2669/2000) \cdot \exp(-471/400))/40 - (9 \cdot \exp(-471/400) \cdot \sin(2669/2000))/8 + 3/8,$
 $(51 \cdot \cos(1343/1000) \cdot \exp(-237/200))/40 - (9 \cdot \exp(-237/200) \cdot \sin(1343/1000))/8 + 3/8,$
 $(51 \cdot \cos(2703/2000) \cdot \exp(-477/400))/40 - (9 \cdot \exp(-477/400) \cdot \sin(2703/2000))/8 + 3/8,$
 $(51 \cdot \cos(34/25) \cdot \exp(-6/5))/40 - (9 \cdot \exp(-6/5) \cdot \sin(34/25))/8 + 3/8,$
 $(51 \cdot \cos(2737/2000) \cdot \exp(-483/400))/40 - (9 \cdot \exp(-483/400) \cdot \sin(2737/2000))/8 + 3/8,$
 $(51 \cdot \cos(1377/1000) \cdot \exp(-243/200))/40 - (9 \cdot \exp(-243/200) \cdot \sin(1377/1000))/8 + 3/8,$
 $(51 \cdot \cos(2771/2000) \cdot \exp(-489/400))/40 - (9 \cdot \exp(-489/400) \cdot \sin(2771/2000))/8 + 3/8,$
 $(51 \cdot \cos(697/500) \cdot \exp(-123/100))/40 - (9 \cdot \exp(-123/100) \cdot \sin(697/500))/8 + 3/8,$
 $(51 \cdot \cos(561/400) \cdot \exp(-99/80))/40 - (9 \cdot \exp(-99/80) \cdot \sin(561/400))/8 + 3/8,$
 $(51 \cdot \cos(1411/1000) \cdot \exp(-249/200))/40 - (9 \cdot \exp(-249/200) \cdot \sin(1411/1000))/8 + 3/8,$
 $(51 \cdot \cos(2839/2000) \cdot \exp(-501/400))/40 - (9 \cdot \exp(-501/400) \cdot \sin(2839/2000))/8 + 3/8,$
 $(51 \cdot \cos(357/250) \cdot \exp(-63/50))/40 - (9 \cdot \exp(-63/50) \cdot \sin(357/250))/8 + 3/8,$
 $(51 \cdot \cos(2873/2000) \cdot \exp(-507/400))/40 - (9 \cdot \exp(-507/400) \cdot \sin(2873/2000))/8 + 3/8,$
 $(51 \cdot \cos(289/200) \cdot \exp(-51/40))/40 - (9 \cdot \exp(-51/40) \cdot \sin(289/200))/8 + 3/8,$
 $(51 \cdot \cos(2907/2000) \cdot \exp(-513/400))/40 - (9 \cdot \exp(-513/400) \cdot \sin(2907/2000))/8 + 3/8,$
 $(51 \cdot \cos(731/500) \cdot \exp(-129/100))/40 - (9 \cdot \exp(-129/100) \cdot \sin(731/500))/8 + 3/8,$
 $(51 \cdot \cos(2941/2000) \cdot \exp(-519/400))/40 - (9 \cdot \exp(-519/400) \cdot \sin(2941/2000))/8 + 3/8,$
 $(51 \cdot \cos(1479/1000) \cdot \exp(-261/200))/40 - (9 \cdot \exp(-261/200) \cdot \sin(1479/1000))/8 + 3/8,$
 $(51 \cdot \cos(119/80) \cdot \exp(-21/16))/40 - (9 \cdot \exp(-21/16) \cdot \sin(119/80))/8 + 3/8,$
 $(51 \cdot \cos(187/125) \cdot \exp(-33/25))/40 - (9 \cdot \exp(-33/25) \cdot \sin(187/125))/8 + 3/8,$
 $(51 \cdot \cos(3009/2000) \cdot \exp(-531/400))/40 - (9 \cdot \exp(-531/400) \cdot \sin(3009/2000))/8 + 3/8,$
 $(51 \cdot \cos(1513/1000) \cdot \exp(-267/200))/40 - (9 \cdot \exp(-267/200) \cdot \sin(1513/1000))/8 + 3/8,$
 $(51 \cdot \cos(3043/2000) \cdot \exp(-537/400))/40 - (9 \cdot \exp(-537/400) \cdot \sin(3043/2000))/8 + 3/8,$
 $(51 \cdot \cos(153/100) \cdot \exp(-27/20))/40 - (9 \cdot \exp(-27/20) \cdot \sin(153/100))/8 + 3/8,$
 $(51 \cdot \cos(3077/2000) \cdot \exp(-543/400))/40 - (9 \cdot \exp(-543/400) \cdot \sin(3077/2000))/8 + 3/8,$
 $(51 \cdot \cos(1547/1000) \cdot \exp(-273/200))/40 - (9 \cdot \exp(-273/200) \cdot \sin(1547/1000))/8 + 3/8,$
 $(51 \cdot \cos(3111/2000) \cdot \exp(-549/400))/40 - (9 \cdot \exp(-549/400) \cdot \sin(3111/2000))/8 + 3/8,$
 $(51 \cdot \cos(391/250) \cdot \exp(-69/50))/40 - (9 \cdot \exp(-69/50) \cdot \sin(391/250))/8 + 3/8,$
 $(51 \cdot \cos(629/400) \cdot \exp(-111/80))/40 - (9 \cdot \exp(-111/80) \cdot \sin(629/400))/8 + 3/8,$
 $(51 \cdot \cos(1581/1000) \cdot \exp(-279/200))/40 - (9 \cdot \exp(-279/200) \cdot \sin(1581/1000))/8 + 3/8,$
 $(51 \cdot \cos(3179/2000) \cdot \exp(-561/400))/40 - (9 \cdot \exp(-561/400) \cdot \sin(3179/2000))/8 + 3/8,$
 $(51 \cdot \cos(799/500) \cdot \exp(-141/100))/40 - (9 \cdot \exp(-141/100) \cdot \sin(799/500))/8 + 3/8,$
 $(51 \cdot \cos(3213/2000) \cdot \exp(-$

567/400))/40 - (9*exp(-567/400)*sin(3213/2000))/8 + 3/8,
(51*cos(323/200)*exp(-57/40))/40 - (9*exp(-
57/40)*sin(323/200))/8 + 3/8, (51*cos(3247/2000)*exp(-
573/400))/40 - (9*exp(-573/400)*sin(3247/2000))/8 + 3/8,
(51*cos(204/125)*exp(-36/25))/40 - (9*exp(-
36/25)*sin(204/125))/8 + 3/8, (51*cos(3281/2000)*exp(-
579/400))/40 - (9*exp(-579/400)*sin(3281/2000))/8 + 3/8,
(51*cos(1649/1000)*exp(-291/200))/40 - (9*exp(-
291/200)*sin(1649/1000))/8 + 3/8, (51*cos(663/400)*exp(-
117/80))/40 - (9*exp(-117/80)*sin(663/400))/8 + 3/8,
(51*cos(833/500)*exp(-147/100))/40 - (9*exp(-
147/100)*sin(833/500))/8 + 3/8, (51*cos(3349/2000)*exp(-
591/400))/40 - (9*exp(-591/400)*sin(3349/2000))/8 + 3/8,
(51*cos(1683/1000)*exp(-297/200))/40 - (9*exp(-
297/200)*sin(1683/1000))/8 + 3/8, (51*cos(3383/2000)*exp(-
597/400))/40 - (9*exp(-597/400)*sin(3383/2000))/8 + 3/8,
(51*cos(17/10)*exp(-3/2))/40 - (9*exp(-3/2)*sin(17/10))/8 +
3/8, (51*cos(3417/2000)*exp(-603/400))/40 - (9*exp(-
603/400)*sin(3417/2000))/8 + 3/8, (51*cos(1717/1000)*exp(-
303/200))/40 - (9*exp(-303/200)*sin(1717/1000))/8 + 3/8,
(51*cos(3451/2000)*exp(-609/400))/40 - (9*exp(-
609/400)*sin(3451/2000))/8 + 3/8, (51*cos(867/500)*exp(-
153/100))/40 - (9*exp(-153/100)*sin(867/500))/8 + 3/8,
(51*cos(697/400)*exp(-123/80))/40 - (9*exp(-
123/80)*sin(697/400))/8 + 3/8, (51*cos(1751/1000)*exp(-
309/200))/40 - (9*exp(-309/200)*sin(1751/1000))/8 + 3/8,
(51*cos(3519/2000)*exp(-621/400))/40 - (9*exp(-
621/400)*sin(3519/2000))/8 + 3/8, (51*cos(221/125)*exp(-
39/25))/40 - (9*exp(-39/25)*sin(221/125))/8 + 3/8,
(51*cos(3553/2000)*exp(-627/400))/40 - (9*exp(-
627/400)*sin(3553/2000))/8 + 3/8, (51*cos(357/200)*exp(-
63/40))/40 - (9*exp(-63/40)*sin(357/200))/8 + 3/8,
(51*cos(3587/2000)*exp(-633/400))/40 - (9*exp(-
633/400)*sin(3587/2000))/8 + 3/8, (51*cos(901/500)*exp(-
159/100))/40 - (9*exp(-159/100)*sin(901/500))/8 + 3/8,
(51*cos(3621/2000)*exp(-639/400))/40 - (9*exp(-
639/400)*sin(3621/2000))/8 + 3/8, (51*cos(1819/1000)*exp(-
321/200))/40 - (9*exp(-321/200)*sin(1819/1000))/8 + 3/8,
(51*cos(731/400)*exp(-129/80))/40 - (9*exp(-
129/80)*sin(731/400))/8 + 3/8, (51*cos(459/250)*exp(-
81/50))/40 - (9*exp(-81/50)*sin(459/250))/8 + 3/8,
(51*cos(3689/2000)*exp(-651/400))/40 - (9*exp(-
651/400)*sin(3689/2000))/8 + 3/8, (51*cos(1853/1000)*exp(-
327/200))/40 - (9*exp(-327/200)*sin(1853/1000))/8 + 3/8,
(51*cos(3723/2000)*exp(-657/400))/40 - (9*exp(-
657/400)*sin(3723/2000))/8 + 3/8, (51*cos(187/100)*exp(-
33/20))/40 - (9*exp(-33/20)*sin(187/100))/8 + 3/8,
(51*cos(3757/2000)*exp(-663/400))/40 - (9*exp(-
663/400)*sin(3757/2000))/8 + 3/8, (51*cos(1887/1000)*exp(-
333/200))/40 - (9*exp(-333/200)*sin(1887/1000))/8 + 3/8,
(51*cos(3791/2000)*exp(-669/400))/40 - (9*exp(-

$$\begin{aligned}
& 669/400) * \sin(3791/2000)) / 8 + 3/8, (51 * \cos(238/125) * \exp(-42/25)) / 40 - (9 * \exp(-42/25) * \sin(238/125)) / 8 + 3/8, \\
& (51 * \cos(153/80) * \exp(-27/16)) / 40 - (9 * \exp(-27/16) * \sin(153/80)) / 8 + 3/8, (51 * \cos(1921/1000) * \exp(-339/200)) / 40 - (9 * \exp(-339/200) * \sin(1921/1000)) / 8 + 3/8, \\
& (51 * \cos(3859/2000) * \exp(-681/400)) / 40 - (9 * \exp(-681/400) * \sin(3859/2000)) / 8 + 3/8, (51 * \cos(969/500) * \exp(-171/100)) / 40 - (9 * \exp(-171/100) * \sin(969/500)) / 8 + 3/8, \\
& (51 * \cos(3893/2000) * \exp(-687/400)) / 40 - (9 * \exp(-687/400) * \sin(3893/2000)) / 8 + 3/8, (51 * \cos(391/200) * \exp(-69/40)) / 40 - (9 * \exp(-69/40) * \sin(391/200)) / 8 + 3/8, \\
& (51 * \cos(3927/2000) * \exp(-693/400)) / 40 - (9 * \exp(-693/400) * \sin(3927/2000)) / 8 + 3/8, (51 * \cos(493/250) * \exp(-87/50)) / 40 - (9 * \exp(-87/50) * \sin(493/250)) / 8 + 3/8, \\
& (51 * \cos(3961/2000) * \exp(-699/400)) / 40 - (9 * \exp(-699/400) * \sin(3961/2000)) / 8 + 3/8, (51 * \cos(1989/1000) * \exp(-351/200)) / 40 - (9 * \exp(-351/200) * \sin(1989/1000)) / 8 + 3/8, \\
& (51 * \cos(799/400) * \exp(-141/80)) / 40 - (9 * \exp(-141/80) * \sin(799/400)) / 8 + 3/8, (51 * \cos(1003/500) * \exp(-177/100)) / 40 - (9 * \exp(-177/100) * \sin(1003/500)) / 8 + 3/8, \\
& (51 * \cos(4029/2000) * \exp(-711/400)) / 40 - (9 * \exp(-711/400) * \sin(4029/2000)) / 8 + 3/8, (51 * \cos(2023/1000) * \exp(-357/200)) / 40 - (9 * \exp(-357/200) * \sin(2023/1000)) / 8 + 3/8, \\
& (51 * \cos(4063/2000) * \exp(-717/400)) / 40 - (9 * \exp(-717/400) * \sin(4063/2000)) / 8 + 3/8, (51 * \cos(51/25) * \exp(-9/5)) / 40 - (9 * \exp(-9/5) * \sin(51/25)) / 8 + 3/8, \\
& (51 * \cos(4097/2000) * \exp(-723/400)) / 40 - (9 * \exp(-723/400) * \sin(4097/2000)) / 8 + 3/8, (51 * \cos(2057/1000) * \exp(-363/200)) / 40 - (9 * \exp(-363/200) * \sin(2057/1000)) / 8 + 3/8, \\
& (51 * \cos(4131/2000) * \exp(-729/400)) / 40 - (9 * \exp(-729/400) * \sin(4131/2000)) / 8 + 3/8, (51 * \cos(1037/500) * \exp(-183/100)) / 40 - (9 * \exp(-183/100) * \sin(1037/500)) / 8 + 3/8, \\
& (51 * \cos(833/400) * \exp(-147/80)) / 40 - (9 * \exp(-147/80) * \sin(833/400)) / 8 + 3/8, (51 * \cos(2091/1000) * \exp(-369/200)) / 40 - (9 * \exp(-369/200) * \sin(2091/1000)) / 8 + 3/8, \\
& (51 * \cos(4199/2000) * \exp(-741/400)) / 40 - (9 * \exp(-741/400) * \sin(4199/2000)) / 8 + 3/8, (51 * \cos(527/250) * \exp(-93/50)) / 40 - (9 * \exp(-93/50) * \sin(527/250)) / 8 + 3/8, \\
& (51 * \cos(4233/2000) * \exp(-747/400)) / 40 - (9 * \exp(-747/400) * \sin(4233/2000)) / 8 + 3/8, (51 * \cos(17/8) * \exp(-15/8)) / 40 - (9 * \exp(-15/8) * \sin(17/8)) / 8 + 3/8]
\end{aligned}$$

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$$\begin{aligned}
& [-153/80, - (153 * \cos(17/2000) * \exp(-3/400)) / 80 - (6 * \exp(-3/400) * \sin(17/2000)) / 25, - (153 * \cos(17/1000) * \exp(-3/200)) / 80 - (6 * \exp(-3/200) * \sin(17/1000)) / 25, - (153 * \cos(51/2000) * \exp(-9/400)) / 80 - (6 * \exp(-9/400) * \sin(51/2000)) / 25, - (153 * \cos(17/500) * \exp(-3/100)) / 80 - (6 * \exp(-3/100) * \sin(17/500)) / 25, - (153 * \cos(17/400) * \exp(-3/80)) / 80 -
\end{aligned}$$

$(6 \cdot \exp(-3/80) \cdot \sin(17/400))/25, - (153 \cdot \cos(51/1000) \cdot \exp(-9/200))/80 - (6 \cdot \exp(-9/200) \cdot \sin(51/1000))/25, -$
 $(153 \cdot \cos(119/2000) \cdot \exp(-21/400))/80 - (6 \cdot \exp(-21/400) \cdot \sin(119/2000))/25, - (153 \cdot \cos(17/250) \cdot \exp(-3/50))/80 -$
 $(6 \cdot \exp(-3/50) \cdot \sin(17/250))/25, - (153 \cdot \cos(153/2000) \cdot \exp(-27/400))/80 - (6 \cdot \exp(-27/400) \cdot \sin(153/2000))/25, -$
 $(153 \cdot \cos(17/200) \cdot \exp(-3/40))/80 - (6 \cdot \exp(-3/40) \cdot \sin(17/200))/25, - (153 \cdot \cos(187/2000) \cdot \exp(-33/400))/80 -$
 $(6 \cdot \exp(-33/400) \cdot \sin(187/2000))/25, - (153 \cdot \cos(51/500) \cdot \exp(-9/100))/80 - (6 \cdot \exp(-9/100) \cdot \sin(51/500))/25, -$
 $(153 \cdot \cos(221/2000) \cdot \exp(-39/400))/80 - (6 \cdot \exp(-39/400) \cdot \sin(221/2000))/25, - (153 \cdot \cos(119/1000) \cdot \exp(-21/200))/80 -$
 $(6 \cdot \exp(-21/200) \cdot \sin(119/1000))/25, - (153 \cdot \cos(51/400) \cdot \exp(-9/80))/80 - (6 \cdot \exp(-9/80) \cdot \sin(51/400))/25, -$
 $(153 \cdot \cos(17/125) \cdot \exp(-3/25))/80 - (6 \cdot \exp(-3/25) \cdot \sin(17/125))/25, - (153 \cdot \cos(289/2000) \cdot \exp(-51/400))/80 -$
 $(6 \cdot \exp(-51/400) \cdot \sin(289/2000))/25, - (153 \cdot \cos(153/1000) \cdot \exp(-27/200))/80 - (6 \cdot \exp(-27/200) \cdot \sin(153/1000))/25, -$
 $(153 \cdot \cos(323/2000) \cdot \exp(-57/400))/80 - (6 \cdot \exp(-57/400) \cdot \sin(323/2000))/25, - (153 \cdot \cos(17/100) \cdot \exp(-3/20))/80 -$
 $(6 \cdot \exp(-3/20) \cdot \sin(17/100))/25, - (153 \cdot \cos(357/2000) \cdot \exp(-63/400))/80 - (6 \cdot \exp(-63/400) \cdot \sin(357/2000))/25, -$
 $(153 \cdot \cos(187/1000) \cdot \exp(-33/200))/80 - (6 \cdot \exp(-33/200) \cdot \sin(187/1000))/25, - (153 \cdot \cos(391/2000) \cdot \exp(-69/400))/80 -$
 $(6 \cdot \exp(-69/400) \cdot \sin(391/2000))/25, - (153 \cdot \cos(51/250) \cdot \exp(-9/50))/80 - (6 \cdot \exp(-9/50) \cdot \sin(51/250))/25, -$
 $(153 \cdot \cos(17/80) \cdot \exp(-3/16))/80 - (6 \cdot \exp(-3/16) \cdot \sin(17/80))/25, - (153 \cdot \cos(221/1000) \cdot \exp(-39/200))/80 -$
 $(6 \cdot \exp(-39/200) \cdot \sin(221/1000))/25, - (153 \cdot \cos(459/2000) \cdot \exp(-81/400))/80 - (6 \cdot \exp(-81/400) \cdot \sin(459/2000))/25, -$
 $(153 \cdot \cos(119/500) \cdot \exp(-21/100))/80 - (6 \cdot \exp(-21/100) \cdot \sin(119/500))/25, - (153 \cdot \cos(493/2000) \cdot \exp(-87/400))/80 -$
 $(6 \cdot \exp(-87/400) \cdot \sin(493/2000))/25, - (153 \cdot \cos(51/200) \cdot \exp(-9/40))/80 - (6 \cdot \exp(-9/40) \cdot \sin(51/200))/25, -$
 $(153 \cdot \cos(527/2000) \cdot \exp(-93/400))/80 - (6 \cdot \exp(-93/400) \cdot \sin(527/2000))/25, - (153 \cdot \cos(34/125) \cdot \exp(-6/25))/80 -$
 $(6 \cdot \exp(-6/25) \cdot \sin(34/125))/25, - (153 \cdot \cos(561/2000) \cdot \exp(-99/400))/80 - (6 \cdot \exp(-99/400) \cdot \sin(561/2000))/25, -$
 $(153 \cdot \cos(289/1000) \cdot \exp(-51/200))/80 - (6 \cdot \exp(-51/200) \cdot \sin(289/1000))/25, - (153 \cdot \cos(119/400) \cdot \exp(-21/80))/80 -$
 $(6 \cdot \exp(-21/80) \cdot \sin(119/400))/25, - (153 \cdot \cos(153/500) \cdot \exp(-27/100))/80 - (6 \cdot \exp(-27/100) \cdot \sin(153/500))/25, -$
 $(153 \cdot \cos(629/2000) \cdot \exp(-111/400))/80 - (6 \cdot \exp(-111/400) \cdot \sin(629/2000))/25, - (153 \cdot \cos(323/1000) \cdot \exp(-57/200))/80 -$
 $(6 \cdot \exp(-57/200) \cdot \sin(323/1000))/25, - (153 \cdot \cos(663/2000) \cdot \exp(-117/400))/80 - (6 \cdot \exp(-117/400) \cdot \sin(663/2000))/25, -$
 $(153 \cdot \cos(17/50) \cdot \exp(-3/10))/80 - (6 \cdot \exp(-3/10) \cdot \sin(17/50))/25, - (153 \cdot \cos(697/2000) \cdot \exp(-123/400))/80 -$
 $(6 \cdot \exp(-123/400) \cdot \sin(697/2000))/25, - (153 \cdot \cos(357/1000) \cdot \exp(-$

$$\begin{aligned}
& 63/200)) / 80 - (6 * \exp(-63/200) * \sin(357/1000)) / 25, - \\
& (153 * \cos(731/2000) * \exp(-129/400)) / 80 - (6 * \exp(- \\
& 129/400) * \sin(731/2000)) / 25, - (153 * \cos(187/500) * \exp(- \\
& 33/100)) / 80 - (6 * \exp(-33/100) * \sin(187/500)) / 25, - \\
& (153 * \cos(153/400) * \exp(-27/80)) / 80 - (6 * \exp(- \\
& 27/80) * \sin(153/400)) / 25, - (153 * \cos(391/1000) * \exp(-69/200)) / 80 \\
& - (6 * \exp(-69/200) * \sin(391/1000)) / 25, - \\
& (153 * \cos(799/2000) * \exp(-141/400)) / 80 - (6 * \exp(- \\
& 141/400) * \sin(799/2000)) / 25, - (153 * \cos(51/125) * \exp(-9/25)) / 80 \\
& - (6 * \exp(-9/25) * \sin(51/125)) / 25, - (153 * \cos(833/2000) * \exp(- \\
& 147/400)) / 80 - (6 * \exp(-147/400) * \sin(833/2000)) / 25, - \\
& (153 * \cos(17/40) * \exp(-3/8)) / 80 - (6 * \exp(-3/8) * \sin(17/40)) / 25, - \\
& (153 * \cos(867/2000) * \exp(-153/400)) / 80 - (6 * \exp(- \\
& 153/400) * \sin(867/2000)) / 25, - (153 * \cos(221/500) * \exp(- \\
& 39/100)) / 80 - (6 * \exp(-39/100) * \sin(221/500)) / 25, - \\
& (153 * \cos(901/2000) * \exp(-159/400)) / 80 - (6 * \exp(- \\
& 159/400) * \sin(901/2000)) / 25, - (153 * \cos(459/1000) * \exp(- \\
& 81/200)) / 80 - (6 * \exp(-81/200) * \sin(459/1000)) / 25, - \\
& (153 * \cos(187/400) * \exp(-33/80)) / 80 - (6 * \exp(- \\
& 33/80) * \sin(187/400)) / 25, - (153 * \cos(119/250) * \exp(-21/50)) / 80 - \\
& (6 * \exp(-21/50) * \sin(119/250)) / 25, - (153 * \cos(969/2000) * \exp(- \\
& 171/400)) / 80 - (6 * \exp(-171/400) * \sin(969/2000)) / 25, - \\
& (153 * \cos(493/1000) * \exp(-87/200)) / 80 - (6 * \exp(- \\
& 87/200) * \sin(493/1000)) / 25, - (153 * \cos(1003/2000) * \exp(- \\
& 177/400)) / 80 - (6 * \exp(-177/400) * \sin(1003/2000)) / 25, - \\
& (153 * \cos(51/100) * \exp(-9/20)) / 80 - (6 * \exp(- \\
& 9/20) * \sin(51/100)) / 25, - (153 * \cos(1037/2000) * \exp(-183/400)) / 80 \\
& - (6 * \exp(-183/400) * \sin(1037/2000)) / 25, - \\
& (153 * \cos(527/1000) * \exp(-93/200)) / 80 - (6 * \exp(- \\
& 93/200) * \sin(527/1000)) / 25, - (153 * \cos(1071/2000) * \exp(- \\
& 189/400)) / 80 - (6 * \exp(-189/400) * \sin(1071/2000)) / 25, - \\
& (153 * \cos(68/125) * \exp(-12/25)) / 80 - (6 * \exp(- \\
& 12/25) * \sin(68/125)) / 25, - (153 * \cos(221/400) * \exp(-39/80)) / 80 - \\
& (6 * \exp(-39/80) * \sin(221/400)) / 25, - (153 * \cos(561/1000) * \exp(- \\
& 99/200)) / 80 - (6 * \exp(-99/200) * \sin(561/1000)) / 25, - \\
& (153 * \cos(1139/2000) * \exp(-201/400)) / 80 - (6 * \exp(- \\
& 201/400) * \sin(1139/2000)) / 25, - (153 * \cos(289/500) * \exp(- \\
& 51/100)) / 80 - (6 * \exp(-51/100) * \sin(289/500)) / 25, - \\
& (153 * \cos(1173/2000) * \exp(-207/400)) / 80 - (6 * \exp(- \\
& 207/400) * \sin(1173/2000)) / 25, - (153 * \cos(119/200) * \exp(- \\
& 21/40)) / 80 - (6 * \exp(-21/40) * \sin(119/200)) / 25, - \\
& (153 * \cos(1207/2000) * \exp(-213/400)) / 80 - (6 * \exp(- \\
& 213/400) * \sin(1207/2000)) / 25, - (153 * \cos(153/250) * \exp(- \\
& 27/50)) / 80 - (6 * \exp(-27/50) * \sin(153/250)) / 25, - \\
& (153 * \cos(1241/2000) * \exp(-219/400)) / 80 - (6 * \exp(- \\
& 219/400) * \sin(1241/2000)) / 25, - (153 * \cos(629/1000) * \exp(- \\
& 111/200)) / 80 - (6 * \exp(-111/200) * \sin(629/1000)) / 25, - \\
& (153 * \cos(51/80) * \exp(-9/16)) / 80 - (6 * \exp(-9/16) * \sin(51/80)) / 25, \\
& - (153 * \cos(323/500) * \exp(-57/100)) / 80 - (6 * \exp(- \\
& 57/100) * \sin(323/500)) / 25, - (153 * \cos(1309/2000) * \exp(- \\
& 231/400)) / 80 - (6 * \exp(-231/400) * \sin(1309/2000)) / 25, -
\end{aligned}$$

$(153 \cdot \cos(663/1000) \cdot \exp(-117/200))/80 - (6 \cdot \exp(-117/200) \cdot \sin(663/1000))/25, - (153 \cdot \cos(1343/2000) \cdot \exp(-237/400))/80 - (6 \cdot \exp(-237/400) \cdot \sin(1343/2000))/25, - (153 \cdot \cos(17/25) \cdot \exp(-3/5))/80 - (6 \cdot \exp(-3/5) \cdot \sin(17/25))/25, - (153 \cdot \cos(1377/2000) \cdot \exp(-243/400))/80 - (6 \cdot \exp(-243/400) \cdot \sin(1377/2000))/25, - (153 \cdot \cos(697/1000) \cdot \exp(-123/200))/80 - (6 \cdot \exp(-123/200) \cdot \sin(697/1000))/25, - (153 \cdot \cos(1411/2000) \cdot \exp(-249/400))/80 - (6 \cdot \exp(-249/400) \cdot \sin(1411/2000))/25, - (153 \cdot \cos(357/500) \cdot \exp(-63/100))/80 - (6 \cdot \exp(-63/100) \cdot \sin(357/500))/25, - (153 \cdot \cos(289/400) \cdot \exp(-51/80))/80 - (6 \cdot \exp(-51/80) \cdot \sin(289/400))/25, - (153 \cdot \cos(731/1000) \cdot \exp(-129/200))/80 - (6 \cdot \exp(-129/200) \cdot \sin(731/1000))/25, - (153 \cdot \cos(1479/2000) \cdot \exp(-261/400))/80 - (6 \cdot \exp(-261/400) \cdot \sin(1479/2000))/25, - (153 \cdot \cos(187/250) \cdot \exp(-33/50))/80 - (6 \cdot \exp(-33/50) \cdot \sin(187/250))/25, - (153 \cdot \cos(1513/2000) \cdot \exp(-267/400))/80 - (6 \cdot \exp(-267/400) \cdot \sin(1513/2000))/25, - (153 \cdot \cos(153/200) \cdot \exp(-27/40))/80 - (6 \cdot \exp(-27/40) \cdot \sin(153/200))/25, - (153 \cdot \cos(1547/2000) \cdot \exp(-273/400))/80 - (6 \cdot \exp(-273/400) \cdot \sin(1547/2000))/25, - (153 \cdot \cos(391/500) \cdot \exp(-69/100))/80 - (6 \cdot \exp(-69/100) \cdot \sin(391/500))/25, - (153 \cdot \cos(1581/2000) \cdot \exp(-279/400))/80 - (6 \cdot \exp(-279/400) \cdot \sin(1581/2000))/25, - (153 \cdot \cos(799/1000) \cdot \exp(-141/200))/80 - (6 \cdot \exp(-141/200) \cdot \sin(799/1000))/25, - (153 \cdot \cos(323/400) \cdot \exp(-57/80))/80 - (6 \cdot \exp(-57/80) \cdot \sin(323/400))/25, - (153 \cdot \cos(102/125) \cdot \exp(-18/25))/80 - (6 \cdot \exp(-18/25) \cdot \sin(102/125))/25, - (153 \cdot \cos(1649/2000) \cdot \exp(-291/400))/80 - (6 \cdot \exp(-291/400) \cdot \sin(1649/2000))/25, - (153 \cdot \cos(833/1000) \cdot \exp(-147/200))/80 - (6 \cdot \exp(-147/200) \cdot \sin(833/1000))/25, - (153 \cdot \cos(1683/2000) \cdot \exp(-297/400))/80 - (6 \cdot \exp(-297/400) \cdot \sin(1683/2000))/25, - (153 \cdot \cos(17/20) \cdot \exp(-3/4))/80 - (6 \cdot \exp(-3/4) \cdot \sin(17/20))/25, - (153 \cdot \cos(1717/2000) \cdot \exp(-303/400))/80 - (6 \cdot \exp(-303/400) \cdot \sin(1717/2000))/25, - (153 \cdot \cos(867/1000) \cdot \exp(-153/200))/80 - (6 \cdot \exp(-153/200) \cdot \sin(867/1000))/25, - (153 \cdot \cos(1751/2000) \cdot \exp(-309/400))/80 - (6 \cdot \exp(-309/400) \cdot \sin(1751/2000))/25, - (153 \cdot \cos(221/250) \cdot \exp(-39/50))/80 - (6 \cdot \exp(-39/50) \cdot \sin(221/250))/25, - (153 \cdot \cos(357/400) \cdot \exp(-63/80))/80 - (6 \cdot \exp(-63/80) \cdot \sin(357/400))/25, - (153 \cdot \cos(901/1000) \cdot \exp(-159/200))/80 - (6 \cdot \exp(-159/200) \cdot \sin(901/1000))/25, - (153 \cdot \cos(1819/2000) \cdot \exp(-321/400))/80 - (6 \cdot \exp(-321/400) \cdot \sin(1819/2000))/25, - (153 \cdot \cos(459/500) \cdot \exp(-81/100))/80 - (6 \cdot \exp(-81/100) \cdot \sin(459/500))/25, - (153 \cdot \cos(1853/2000) \cdot \exp(-327/400))/80 - (6 \cdot \exp(-327/400) \cdot \sin(1853/2000))/25, - (153 \cdot \cos(187/200) \cdot \exp(-33/40))/80 - (6 \cdot \exp(-33/40) \cdot \sin(187/200))/25, - (153 \cdot \cos(1887/2000) \cdot \exp(-333/400))/80 - (6 \cdot \exp(-333/400) \cdot \sin(1887/2000))/25, - (153 \cdot \cos(119/125) \cdot \exp(-21/25))/80 - (6 \cdot \exp(-21/25) \cdot \sin(119/125))/25, -$

$(153 \cos(1921/2000) \exp(-339/400))/80 - (6 \exp(-339/400) \sin(1921/2000))/25, - (153 \cos(969/1000) \exp(-171/200))/80 - (6 \exp(-171/200) \sin(969/1000))/25, - (153 \cos(391/400) \exp(-69/80))/80 - (6 \exp(-69/80) \sin(391/400))/25, - (153 \cos(493/500) \exp(-87/100))/80 - (6 \exp(-87/100) \sin(493/500))/25, - (153 \cos(1989/2000) \exp(-351/400))/80 - (6 \exp(-351/400) \sin(1989/2000))/25, - (153 \cos(1003/1000) \exp(-177/200))/80 - (6 \exp(-177/200) \sin(1003/1000))/25, - (153 \cos(2023/2000) \exp(-357/400))/80 - (6 \exp(-357/400) \sin(2023/2000))/25, - (153 \cos(51/50) \exp(-9/10))/80 - (6 \exp(-9/10) \sin(51/50))/25, - (153 \cos(2057/2000) \exp(-363/400))/80 - (6 \exp(-363/400) \sin(2057/2000))/25, - (153 \cos(1037/1000) \exp(-183/200))/80 - (6 \exp(-183/200) \sin(1037/1000))/25, - (153 \cos(2091/2000) \exp(-369/400))/80 - (6 \exp(-369/400) \sin(2091/2000))/25, - (153 \cos(527/500) \exp(-93/100))/80 - (6 \exp(-93/100) \sin(527/500))/25, - (153 \cos(17/16) \exp(-15/16))/80 - (6 \exp(-15/16) \sin(17/16))/25, - (153 \cos(1071/1000) \exp(-189/200))/80 - (6 \exp(-189/200) \sin(1071/1000))/25, - (153 \cos(2159/2000) \exp(-381/400))/80 - (6 \exp(-381/400) \sin(2159/2000))/25, - (153 \cos(136/125) \exp(-24/25))/80 - (6 \exp(-24/25) \sin(136/125))/25, - (153 \cos(2193/2000) \exp(-387/400))/80 - (6 \exp(-387/400) \sin(2193/2000))/25, - (153 \cos(221/200) \exp(-39/40))/80 - (6 \exp(-39/40) \sin(221/200))/25, - (153 \cos(2227/2000) \exp(-393/400))/80 - (6 \exp(-393/400) \sin(2227/2000))/25, - (153 \cos(561/500) \exp(-99/100))/80 - (6 \exp(-99/100) \sin(561/500))/25, - (153 \cos(2261/2000) \exp(-399/400))/80 - (6 \exp(-399/400) \sin(2261/2000))/25, - (153 \cos(1139/1000) \exp(-201/200))/80 - (6 \exp(-201/200) \sin(1139/1000))/25, - (153 \cos(459/400) \exp(-81/80))/80 - (6 \exp(-81/80) \sin(459/400))/25, - (153 \cos(289/250) \exp(-51/50))/80 - (6 \exp(-51/50) \sin(289/250))/25, - (153 \cos(2329/2000) \exp(-411/400))/80 - (6 \exp(-411/400) \sin(2329/2000))/25, - (153 \cos(1173/1000) \exp(-207/200))/80 - (6 \exp(-207/200) \sin(1173/1000))/25, - (153 \cos(2363/2000) \exp(-417/400))/80 - (6 \exp(-417/400) \sin(2363/2000))/25, - (153 \cos(119/100) \exp(-21/20))/80 - (6 \exp(-21/20) \sin(119/100))/25, - (153 \cos(2397/2000) \exp(-423/400))/80 - (6 \exp(-423/400) \sin(2397/2000))/25, - (153 \cos(1207/1000) \exp(-213/200))/80 - (6 \exp(-213/200) \sin(1207/1000))/25, - (153 \cos(2431/2000) \exp(-429/400))/80 - (6 \exp(-429/400) \sin(2431/2000))/25, - (153 \cos(153/125) \exp(-27/25))/80 - (6 \exp(-27/25) \sin(153/125))/25, - (153 \cos(493/400) \exp(-87/80))/80 - (6 \exp(-87/80) \sin(493/400))/25, - (153 \cos(1241/1000) \exp(-219/200))/80 - (6 \exp(-219/200) \sin(1241/1000))/25, - (153 \cos(2499/2000) \exp(-441/400))/80 - (6 \exp(-441/400) \sin(2499/2000))/25, - (153 \cos(629/500) \exp(-$

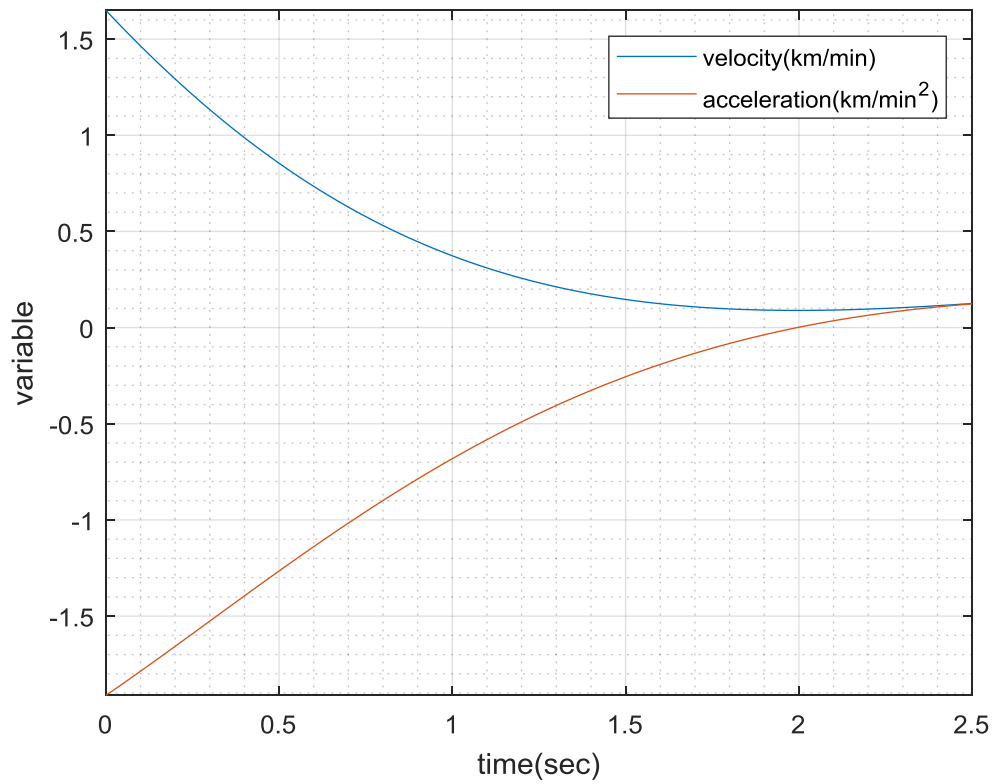
$$\begin{aligned}
& 111/100)/80 - (6*\exp(-111/100)*\sin(629/500))/25, - \\
& (153*\cos(2533/2000)*\exp(-447/400))/80 - (6*\exp(- \\
& 447/400)*\sin(2533/2000))/25, - (153*\cos(51/40)*\exp(-9/8))/80 - \\
& (6*\exp(-9/8)*\sin(51/40))/25, - (153*\cos(2567/2000)*\exp(- \\
& 453/400))/80 - (6*\exp(-453/400)*\sin(2567/2000))/25, - \\
& (153*\cos(323/250)*\exp(-57/50))/80 - (6*\exp(- \\
& 57/50)*\sin(323/250))/25, - (153*\cos(2601/2000)*\exp(- \\
& 459/400))/80 - (6*\exp(-459/400)*\sin(2601/2000))/25, - \\
& (153*\cos(1309/1000)*\exp(-231/200))/80 - (6*\exp(- \\
& 231/200)*\sin(1309/1000))/25, - (153*\cos(527/400)*\exp(- \\
& 93/80))/80 - (6*\exp(-93/80)*\sin(527/400))/25, - \\
& (153*\cos(663/500)*\exp(-117/100))/80 - (6*\exp(- \\
& 117/100)*\sin(663/500))/25, - (153*\cos(2669/2000)*\exp(- \\
& 471/400))/80 - (6*\exp(-471/400)*\sin(2669/2000))/25, - \\
& (153*\cos(1343/1000)*\exp(-237/200))/80 - (6*\exp(- \\
& 237/200)*\sin(1343/1000))/25, - (153*\cos(2703/2000)*\exp(- \\
& 477/400))/80 - (6*\exp(-477/400)*\sin(2703/2000))/25, - \\
& (153*\cos(34/25)*\exp(-6/5))/80 - (6*\exp(-6/5)*\sin(34/25))/25, - \\
& (153*\cos(2737/2000)*\exp(-483/400))/80 - (6*\exp(- \\
& 483/400)*\sin(2737/2000))/25, - (153*\cos(1377/1000)*\exp(- \\
& 243/200))/80 - (6*\exp(-243/200)*\sin(1377/1000))/25, - \\
& (153*\cos(2771/2000)*\exp(-489/400))/80 - (6*\exp(- \\
& 489/400)*\sin(2771/2000))/25, - (153*\cos(697/500)*\exp(- \\
& 123/100))/80 - (6*\exp(-123/100)*\sin(697/500))/25, - \\
& (153*\cos(561/400)*\exp(-99/80))/80 - (6*\exp(- \\
& 99/80)*\sin(561/400))/25, - (153*\cos(1411/1000)*\exp(- \\
& 249/200))/80 - (6*\exp(-249/200)*\sin(1411/1000))/25, - \\
& (153*\cos(2839/2000)*\exp(-501/400))/80 - (6*\exp(- \\
& 501/400)*\sin(2839/2000))/25, - (153*\cos(357/250)*\exp(- \\
& 63/50))/80 - (6*\exp(-63/50)*\sin(357/250))/25, - \\
& (153*\cos(2873/2000)*\exp(-507/400))/80 - (6*\exp(- \\
& 507/400)*\sin(2873/2000))/25, - (153*\cos(289/200)*\exp(- \\
& 51/40))/80 - (6*\exp(-51/40)*\sin(289/200))/25, - \\
& (153*\cos(2907/2000)*\exp(-513/400))/80 - (6*\exp(- \\
& 513/400)*\sin(2907/2000))/25, - (153*\cos(731/500)*\exp(- \\
& 129/100))/80 - (6*\exp(-129/100)*\sin(731/500))/25, - \\
& (153*\cos(2941/2000)*\exp(-519/400))/80 - (6*\exp(- \\
& 519/400)*\sin(2941/2000))/25, - (153*\cos(1479/1000)*\exp(- \\
& 261/200))/80 - (6*\exp(-261/200)*\sin(1479/1000))/25, - \\
& (153*\cos(119/80)*\exp(-21/16))/80 - (6*\exp(- \\
& 21/16)*\sin(119/80))/25, - (153*\cos(187/125)*\exp(-33/25))/80 - \\
& (6*\exp(-33/25)*\sin(187/125))/25, - (153*\cos(3009/2000)*\exp(- \\
& 531/400))/80 - (6*\exp(-531/400)*\sin(3009/2000))/25, - \\
& (153*\cos(1513/1000)*\exp(-267/200))/80 - (6*\exp(- \\
& 267/200)*\sin(1513/1000))/25, - (153*\cos(3043/2000)*\exp(- \\
& 537/400))/80 - (6*\exp(-537/400)*\sin(3043/2000))/25, - \\
& (153*\cos(153/100)*\exp(-27/20))/80 - (6*\exp(- \\
& 27/20)*\sin(153/100))/25, - (153*\cos(3077/2000)*\exp(- \\
& 543/400))/80 - (6*\exp(-543/400)*\sin(3077/2000))/25, - \\
& (153*\cos(1547/1000)*\exp(-273/200))/80 - (6*\exp(- \\
& 273/200)*\sin(1547/1000))/25, - (153*\cos(3111/2000)*\exp(-
\end{aligned}$$

$$\begin{aligned}
& 549/400)/80 - (6*\exp(-549/400)*\sin(3111/2000))/25, - \\
& (153*\cos(391/250)*\exp(-69/50))/80 - (6*\exp(- \\
& 69/50)*\sin(391/250))/25, - (153*\cos(629/400)*\exp(-111/80))/80 \\
& - (6*\exp(-111/80)*\sin(629/400))/25, - \\
& (153*\cos(1581/1000)*\exp(-279/200))/80 - (6*\exp(- \\
& 279/200)*\sin(1581/1000))/25, - (153*\cos(3179/2000)*\exp(- \\
& 561/400))/80 - (6*\exp(-561/400)*\sin(3179/2000))/25, - \\
& (153*\cos(799/500)*\exp(-141/100))/80 - (6*\exp(- \\
& 141/100)*\sin(799/500))/25, - (153*\cos(3213/2000)*\exp(- \\
& 567/400))/80 - (6*\exp(-567/400)*\sin(3213/2000))/25, - \\
& (153*\cos(323/200)*\exp(-57/40))/80 - (6*\exp(- \\
& 57/40)*\sin(323/200))/25, - (153*\cos(3247/2000)*\exp(- \\
& 573/400))/80 - (6*\exp(-573/400)*\sin(3247/2000))/25, - \\
& (153*\cos(204/125)*\exp(-36/25))/80 - (6*\exp(- \\
& 36/25)*\sin(204/125))/25, - (153*\cos(3281/2000)*\exp(- \\
& 579/400))/80 - (6*\exp(-579/400)*\sin(3281/2000))/25, - \\
& (153*\cos(1649/1000)*\exp(-291/200))/80 - (6*\exp(- \\
& 291/200)*\sin(1649/1000))/25, - (153*\cos(663/400)*\exp(- \\
& 117/80))/80 - (6*\exp(-117/80)*\sin(663/400))/25, - \\
& (153*\cos(833/500)*\exp(-147/100))/80 - (6*\exp(- \\
& 147/100)*\sin(833/500))/25, - (153*\cos(3349/2000)*\exp(- \\
& 591/400))/80 - (6*\exp(-591/400)*\sin(3349/2000))/25, - \\
& (153*\cos(1683/1000)*\exp(-297/200))/80 - (6*\exp(- \\
& 297/200)*\sin(1683/1000))/25, - (153*\cos(3383/2000)*\exp(- \\
& 597/400))/80 - (6*\exp(-597/400)*\sin(3383/2000))/25, - \\
& (153*\cos(17/10)*\exp(-3/2))/80 - (6*\exp(-3/2)*\sin(17/10))/25, - \\
& (153*\cos(3417/2000)*\exp(-603/400))/80 - (6*\exp(- \\
& 603/400)*\sin(3417/2000))/25, - (153*\cos(1717/1000)*\exp(- \\
& 303/200))/80 - (6*\exp(-303/200)*\sin(1717/1000))/25, - \\
& (153*\cos(3451/2000)*\exp(-609/400))/80 - (6*\exp(- \\
& 609/400)*\sin(3451/2000))/25, - (153*\cos(867/500)*\exp(- \\
& 153/100))/80 - (6*\exp(-153/100)*\sin(867/500))/25, - \\
& (153*\cos(697/400)*\exp(-123/80))/80 - (6*\exp(- \\
& 123/80)*\sin(697/400))/25, - (153*\cos(1751/1000)*\exp(- \\
& 309/200))/80 - (6*\exp(-309/200)*\sin(1751/1000))/25, - \\
& (153*\cos(3519/2000)*\exp(-621/400))/80 - (6*\exp(- \\
& 621/400)*\sin(3519/2000))/25, - (153*\cos(221/125)*\exp(- \\
& 39/25))/80 - (6*\exp(-39/25)*\sin(221/125))/25, - \\
& (153*\cos(3553/2000)*\exp(-627/400))/80 - (6*\exp(- \\
& 627/400)*\sin(3553/2000))/25, - (153*\cos(357/200)*\exp(- \\
& 63/40))/80 - (6*\exp(-63/40)*\sin(357/200))/25, - \\
& (153*\cos(3587/2000)*\exp(-633/400))/80 - (6*\exp(- \\
& 633/400)*\sin(3587/2000))/25, - (153*\cos(901/500)*\exp(- \\
& 159/100))/80 - (6*\exp(-159/100)*\sin(901/500))/25, - \\
& (153*\cos(3621/2000)*\exp(-639/400))/80 - (6*\exp(- \\
& 639/400)*\sin(3621/2000))/25, - (153*\cos(1819/1000)*\exp(- \\
& 321/200))/80 - (6*\exp(-321/200)*\sin(1819/1000))/25, - \\
& (153*\cos(731/400)*\exp(-129/80))/80 - (6*\exp(- \\
& 129/80)*\sin(731/400))/25, - (153*\cos(459/250)*\exp(-81/50))/80 \\
& - (6*\exp(-81/50)*\sin(459/250))/25, - (153*\cos(3689/2000)*\exp(- \\
& 651/400))/80 - (6*\exp(-651/400)*\sin(3689/2000))/25, -
\end{aligned}$$

$(153 \cdot \cos(1853/1000) \cdot \exp(-327/200))/80 - (6 \cdot \exp(-327/200) \cdot \sin(1853/1000))/25, - (153 \cdot \cos(3723/2000) \cdot \exp(-657/400))/80 - (6 \cdot \exp(-657/400) \cdot \sin(3723/2000))/25, - (153 \cdot \cos(187/100) \cdot \exp(-33/20))/80 - (6 \cdot \exp(-33/20) \cdot \sin(187/100))/25, - (153 \cdot \cos(3757/2000) \cdot \exp(-663/400))/80 - (6 \cdot \exp(-663/400) \cdot \sin(3757/2000))/25, - (153 \cdot \cos(1887/1000) \cdot \exp(-333/200))/80 - (6 \cdot \exp(-333/200) \cdot \sin(1887/1000))/25, - (153 \cdot \cos(3791/2000) \cdot \exp(-669/400))/80 - (6 \cdot \exp(-669/400) \cdot \sin(3791/2000))/25, - (153 \cdot \cos(238/125) \cdot \exp(-42/25))/80 - (6 \cdot \exp(-42/25) \cdot \sin(238/125))/25, - (153 \cdot \cos(153/80) \cdot \exp(-27/16))/80 - (6 \cdot \exp(-27/16) \cdot \sin(153/80))/25, - (153 \cdot \cos(1921/1000) \cdot \exp(-339/200))/80 - (6 \cdot \exp(-339/200) \cdot \sin(1921/1000))/25, - (153 \cdot \cos(3859/2000) \cdot \exp(-681/400))/80 - (6 \cdot \exp(-681/400) \cdot \sin(3859/2000))/25, - (153 \cdot \cos(969/500) \cdot \exp(-171/100))/80 - (6 \cdot \exp(-171/100) \cdot \sin(969/500))/25, - (153 \cdot \cos(3893/2000) \cdot \exp(-687/400))/80 - (6 \cdot \exp(-687/400) \cdot \sin(3893/2000))/25, - (153 \cdot \cos(391/200) \cdot \exp(-69/40))/80 - (6 \cdot \exp(-69/40) \cdot \sin(391/200))/25, - (153 \cdot \cos(3927/2000) \cdot \exp(-693/400))/80 - (6 \cdot \exp(-693/400) \cdot \sin(3927/2000))/25, - (153 \cdot \cos(493/250) \cdot \exp(-87/50))/80 - (6 \cdot \exp(-87/50) \cdot \sin(493/250))/25, - (153 \cdot \cos(3961/2000) \cdot \exp(-699/400))/80 - (6 \cdot \exp(-699/400) \cdot \sin(3961/2000))/25, - (153 \cdot \cos(1989/1000) \cdot \exp(-351/200))/80 - (6 \cdot \exp(-351/200) \cdot \sin(1989/1000))/25, - (153 \cdot \cos(799/400) \cdot \exp(-141/80))/80 - (6 \cdot \exp(-141/80) \cdot \sin(799/400))/25, - (153 \cdot \cos(1003/500) \cdot \exp(-177/100))/80 - (6 \cdot \exp(-177/100) \cdot \sin(1003/500))/25, - (153 \cdot \cos(4029/2000) \cdot \exp(-711/400))/80 - (6 \cdot \exp(-711/400) \cdot \sin(4029/2000))/25, - (153 \cdot \cos(2023/1000) \cdot \exp(-357/200))/80 - (6 \cdot \exp(-357/200) \cdot \sin(2023/1000))/25, - (153 \cdot \cos(4063/2000) \cdot \exp(-717/400))/80 - (6 \cdot \exp(-717/400) \cdot \sin(4063/2000))/25, - (153 \cdot \cos(51/25) \cdot \exp(-9/5))/80 - (6 \cdot \exp(-9/5) \cdot \sin(51/25))/25, - (153 \cdot \cos(4097/2000) \cdot \exp(-723/400))/80 - (6 \cdot \exp(-723/400) \cdot \sin(4097/2000))/25, - (153 \cdot \cos(2057/1000) \cdot \exp(-363/200))/80 - (6 \cdot \exp(-363/200) \cdot \sin(2057/1000))/25, - (153 \cdot \cos(4131/2000) \cdot \exp(-729/400))/80 - (6 \cdot \exp(-729/400) \cdot \sin(4131/2000))/25, - (153 \cdot \cos(1037/500) \cdot \exp(-183/100))/80 - (6 \cdot \exp(-183/100) \cdot \sin(1037/500))/25, - (153 \cdot \cos(833/400) \cdot \exp(-147/80))/80 - (6 \cdot \exp(-147/80) \cdot \sin(833/400))/25, - (153 \cdot \cos(2091/1000) \cdot \exp(-369/200))/80 - (6 \cdot \exp(-369/200) \cdot \sin(2091/1000))/25, - (153 \cdot \cos(4199/2000) \cdot \exp(-741/400))/80 - (6 \cdot \exp(-741/400) \cdot \sin(4199/2000))/25, - (153 \cdot \cos(527/250) \cdot \exp(-93/50))/80 - (6 \cdot \exp(-93/50) \cdot \sin(527/250))/25, - (153 \cdot \cos(4233/2000) \cdot \exp(-747/400))/80 - (6 \cdot \exp(-747/400) \cdot \sin(4233/2000))/25, - (153 \cdot \cos(17/8) \cdot \exp(-15/8))/80 - (6 \cdot \exp(-15/8) \cdot \sin(17/8))/25]$

>>

graph



QUESTION 3

inputs

```
commandwindow
clc
clear
syms x
y=5*(sin(5*x))^5
xn=(0)
xnn=(pi)
a=y^2
v=pi*int(a)
b=subs(v,xn)
d=subs(v,xnn)
c=(d-b)
```

output...

y =

5*sin(5*x)^5

xn =

0

xnn =

3.1416

a =

$25 \cdot \sin(5 \cdot x)^{10}$

v =

$\pi \cdot \left(\frac{1575 \cdot x}{256} - \frac{525 \cdot \sin(10 \cdot x)}{512} + \frac{75 \cdot \sin(20 \cdot x)}{256} - \frac{75 \cdot \sin(30 \cdot x)}{1024} + \frac{25 \cdot \sin(40 \cdot x)}{2048} - \frac{\sin(50 \cdot x)}{1024} \right)$

b =

0

d =

$\frac{1575 \cdot \pi^2}{256}$

c =

$$(1575\pi^2)/256$$

>>