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Matric No: 16/ENG01/015

Department: CHEMICAL ENGINEERING

ENG 281

1. INPUT:

```
commandwindow
clear
clc
a= [0, 10, 4, -2;-3, -17, 1, 2; 1, 1, 1, 0;8, -34, 16, -10]
n = [4 ;2 ;6; 4]
d = inv(a)
s= d*n
```

OUTPUT

```
commandwindow
clear
clc
a= [0, 10, 4, -2;-3, -17, 1, 2; 1, 1, 1, 0;8, -34, 16, -10]
n = [4 ;2 ;6; 4]
d = inv(a)
s= d*n
```

2

INPUT

```
commandwindow
clear
clc
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)
vn = subs(v,tn)
a = diff(v)
an = subs(a,tn)
plot (tn,vn,tn,an)
grid on
grid minor
xlabel('time(min)')
ylabel('variable')
legend('velocity(m/min)', 'acceleration(m/min^2)')
```

OUTPUT

d =

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

tn =

Columns 1 through 8

	0	0.0100	0.0200	0.0300	0.0400	0.0500	
0.0600	0.0700						

Columns 9 through 16

	0.0800	0.0900	0.1000	0.1100	0.1200	0.1300	
0.1400	0.1500						

Columns 17 through 24

	0.1600	0.1700	0.1800	0.1900	0.2000	0.2100	
0.2200	0.2300						

Columns 25 through 32

	0.2400	0.2500	0.2600	0.2700	0.2800	0.2900	
0.3000	0.3100						

Columns 33 through 40

	0.3200	0.3300	0.3400	0.3500	0.3600	0.3700	
0.3800	0.3900						

Columns 41 through 48

	0.4000	0.4100	0.4200	0.4300	0.4400	0.4500	
0.4600	0.4700						

Columns 49 through 56

	0.4800	0.4900	0.5000	0.5100	0.5200	0.5300	
0.5400	0.5500						

Columns 57 through 64

0.5600 0.5700 0.5800 0.5900 0.6000 0.6100
0.6200 0.6300

Columns 65 through 72

0.6400 0.6500 0.6600 0.6700 0.6800 0.6900
0.7000 0.7100

Columns 73 through 80

0.7200 0.7300 0.7400 0.7500 0.7600 0.7700
0.7800 0.7900

Columns 81 through 88

0.8000 0.8100 0.8200 0.8300 0.8400 0.8500
0.8600 0.8700

Columns 89 through 96

0.8800 0.8900 0.9000 0.9100 0.9200 0.9300
0.9400 0.9500

Columns 97 through 104

0.9600 0.9700 0.9800 0.9900 1.0000 1.0100
1.0200 1.0300

Columns 105 through 112

1.0400 1.0500 1.0600 1.0700 1.0800 1.0900
1.1000 1.1100

Columns 113 through 120

1.1200 1.1300 1.1400 1.1500 1.1600 1.1700
1.1800 1.1900

Columns 121 through 128

1.2000 1.2100 1.2200 1.2300 1.2400 1.2500
1.2600 1.2700

Columns 129 through 136

1.2800 1.2900 1.3000 1.3100 1.3200 1.3300
1.3400 1.3500

Columns 137 through 144

1.3600	1.3700	1.3800	1.3900	1.4000	1.4100
1.4200	1.4300				

Columns 145 through 152

1.4400	1.4500	1.4600	1.4700	1.4800	1.4900
1.5000	1.5100				

Columns 153 through 160

1.5200	1.5300	1.5400	1.5500	1.5600	1.5700
1.5800	1.5900				

Columns 161 through 168

1.6000	1.6100	1.6200	1.6300	1.6400	1.6500
1.6600	1.6700				

Columns 169 through 176

1.6800	1.6900	1.7000	1.7100	1.7200	1.7300
1.7400	1.7500				

Columns 177 through 184

1.7600	1.7700	1.7800	1.7900	1.8000	1.8100
1.8200	1.8300				

Columns 185 through 192

1.8400	1.8500	1.8600	1.8700	1.8800	1.8900
1.9000	1.9100				

Columns 193 through 200

1.9200	1.9300	1.9400	1.9500	1.9600	1.9700
1.9800	1.9900				

Columns 201 through 208

2.0000	2.0100	2.0200	2.0300	2.0400	2.0500
2.0600	2.0700				

Columns 209 through 216

2.0800 2.0900 2.1000 2.1100 2.1200 2.1300
2.1400 2.1500

Columns 217 through 224

2.1600 2.1700 2.1800 2.1900 2.2000 2.2100
2.2200 2.2300

Columns 225 through 232

2.2400 2.2500 2.2600 2.2700 2.2800 2.2900
2.3000 2.3100

Columns 233 through 240

2.3200 2.3300 2.3400 2.3500 2.3600 2.3700
2.3800 2.3900

Columns 241 through 248

2.4000 2.4100 2.4200 2.4300 2.4400 2.4500
2.4600 2.4700

Columns 249 through 251

2.4800 2.4900 2.5000

v =

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

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,$

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

$$\begin{aligned} & 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, (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(- \end{aligned}$$

$(327/400) * \sin(1853/2000) / 8 + 3/8, (51 * \cos(187/200) * \exp(-33/40)) / 40 - (9 * \exp(-33/40) * \sin(187/200)) / 8 + 3/8,$
 $(51 * \cos(1887/2000) * \exp(-333/400)) / 40 - (9 * \exp(-333/400) * \sin(1887/2000)) / 8 + 3/8, (51 * \cos(119/125) * \exp(-21/25)) / 40 - (9 * \exp(-21/25) * \sin(119/125)) / 8 + 3/8,$
 $(51 * \cos(1921/2000) * \exp(-339/400)) / 40 - (9 * \exp(-339/400) * \sin(1921/2000)) / 8 + 3/8, (51 * \cos(969/1000) * \exp(-171/200)) / 40 - (9 * \exp(-171/200) * \sin(969/1000)) / 8 + 3/8,$
 $(51 * \cos(391/400) * \exp(-69/80)) / 40 - (9 * \exp(-69/80) * \sin(391/400)) / 8 + 3/8, (51 * \cos(493/500) * \exp(-87/100)) / 40 - (9 * \exp(-87/100) * \sin(493/500)) / 8 + 3/8,$
 $(51 * \cos(1989/2000) * \exp(-351/400)) / 40 - (9 * \exp(-351/400) * \sin(1989/2000)) / 8 + 3/8, (51 * \cos(1003/1000) * \exp(-177/200)) / 40 - (9 * \exp(-177/200) * \sin(1003/1000)) / 8 + 3/8,$
 $(51 * \cos(2023/2000) * \exp(-357/400)) / 40 - (9 * \exp(-357/400) * \sin(2023/2000)) / 8 + 3/8, (51 * \cos(51/50) * \exp(-9/10)) / 40 - (9 * \exp(-9/10) * \sin(51/50)) / 8 + 3/8,$
 $(51 * \cos(2057/2000) * \exp(-363/400)) / 40 - (9 * \exp(-363/400) * \sin(2057/2000)) / 8 + 3/8,$
 $(51 * \cos(1037/1000) * \exp(-183/200)) / 40 - (9 * \exp(-183/200) * \sin(1037/1000)) / 8 + 3/8, (51 * \cos(2091/2000) * \exp(-369/400)) / 40 - (9 * \exp(-369/400) * \sin(2091/2000)) / 8 + 3/8,$
 $(51 * \cos(527/500) * \exp(-93/100)) / 40 - (9 * \exp(-93/100) * \sin(527/500)) / 8 + 3/8, (51 * \cos(17/16) * \exp(-15/16)) / 40 - (9 * \exp(-15/16) * \sin(17/16)) / 8 + 3/8,$
 $(51 * \cos(1071/1000) * \exp(-189/200)) / 40 - (9 * \exp(-189/200) * \sin(1071/1000)) / 8 + 3/8,$
 $(51 * \cos(2159/2000) * \exp(-381/400)) / 40 - (9 * \exp(-381/400) * \sin(2159/2000)) / 8 + 3/8, (51 * \cos(136/125) * \exp(-24/25)) / 40 - (9 * \exp(-24/25) * \sin(136/125)) / 8 + 3/8,$
 $(51 * \cos(2193/2000) * \exp(-387/400)) / 40 - (9 * \exp(-387/400) * \sin(2193/2000)) / 8 + 3/8, (51 * \cos(221/200) * \exp(-39/40)) / 40 - (9 * \exp(-39/40) * \sin(221/200)) / 8 + 3/8,$
 $(51 * \cos(2227/2000) * \exp(-393/400)) / 40 - (9 * \exp(-393/400) * \sin(2227/2000)) / 8 + 3/8, (51 * \cos(561/500) * \exp(-99/100)) / 40 - (9 * \exp(-99/100) * \sin(561/500)) / 8 + 3/8,$
 $(51 * \cos(2261/2000) * \exp(-399/400)) / 40 - (9 * \exp(-399/400) * \sin(2261/2000)) / 8 + 3/8, (51 * \cos(1139/1000) * \exp(-201/200)) / 40 - (9 * \exp(-201/200) * \sin(1139/1000)) / 8 + 3/8,$
 $(51 * \cos(459/400) * \exp(-81/80)) / 40 - (9 * \exp(-81/80) * \sin(459/400)) / 8 + 3/8, (51 * \cos(289/250) * \exp(-51/50)) / 40 - (9 * \exp(-51/50) * \sin(289/250)) / 8 + 3/8,$
 $(51 * \cos(2329/2000) * \exp(-411/400)) / 40 - (9 * \exp(-411/400) * \sin(2329/2000)) / 8 + 3/8,$
 $(51 * \cos(1173/1000) * \exp(-207/200)) / 40 - (9 * \exp(-207/200) * \sin(1173/1000)) / 8 + 3/8, (51 * \cos(2363/2000) * \exp(-417/400)) / 40 - (9 * \exp(-417/400) * \sin(2363/2000)) / 8 + 3/8,$
 $(51 * \cos(119/100) * \exp(-21/20)) / 40 - (9 * \exp(-21/20) * \sin(119/100)) / 8 + 3/8, (51 * \cos(2397/2000) * \exp(-423/400)) / 40 - (9 * \exp(-423/400) * \sin(2397/2000)) / 8 + 3/8,$

$(51 \cdot \cos(1207/1000) \cdot \exp(-213/200))/40 - (9 \cdot \exp(-213/200) \cdot \sin(1207/1000))/8 + 3/8,$
 $(51 \cdot \cos(2431/2000) \cdot \exp(-429/400))/40 - (9 \cdot \exp(-429/400) \cdot \sin(2431/2000))/8 + 3/8,$
 $(51 \cdot \cos(153/125) \cdot \exp(-27/25))/40 - (9 \cdot \exp(-27/25) \cdot \sin(153/125))/8 + 3/8,$
 $(51 \cdot \cos(493/400) \cdot \exp(-87/80))/40 - (9 \cdot \exp(-87/80) \cdot \sin(493/400))/8 + 3/8,$
 $(51 \cdot \cos(1241/1000) \cdot \exp(-219/200))/40 - (9 \cdot \exp(-219/200) \cdot \sin(1241/1000))/8 + 3/8,$
 $(51 \cdot \cos(2499/2000) \cdot \exp(-441/400))/40 - (9 \cdot \exp(-441/400) \cdot \sin(2499/2000))/8 + 3/8,$
 $(51 \cdot \cos(629/500) \cdot \exp(-111/100))/40 - (9 \cdot \exp(-111/100) \cdot \sin(629/500))/8 + 3/8,$
 $(51 \cdot \cos(2533/2000) \cdot \exp(-447/400))/40 - (9 \cdot \exp(-447/400) \cdot \sin(2533/2000))/8 + 3/8,$
 $(51 \cdot \cos(51/40) \cdot \exp(-9/8))/40 - (9 \cdot \exp(-9/8) \cdot \sin(51/40))/8 + 3/8,$
 $(51 \cdot \cos(2567/2000) \cdot \exp(-453/400))/40 - (9 \cdot \exp(-453/400) \cdot \sin(2567/2000))/8 + 3/8,$
 $(51 \cdot \cos(323/250) \cdot \exp(-57/50))/40 - (9 \cdot \exp(-57/50) \cdot \sin(323/250))/8 + 3/8,$
 $(51 \cdot \cos(2601/2000) \cdot \exp(-459/400))/40 - (9 \cdot \exp(-459/400) \cdot \sin(2601/2000))/8 + 3/8,$
 $(51 \cdot \cos(1309/1000) \cdot \exp(-231/200))/40 - (9 \cdot \exp(-231/200) \cdot \sin(1309/1000))/8 + 3/8,$
 $(51 \cdot \cos(527/400) \cdot \exp(-93/80))/40 - (9 \cdot \exp(-93/80) \cdot \sin(527/400))/8 + 3/8,$
 $(51 \cdot \cos(663/500) \cdot \exp(-117/100))/40 - (9 \cdot \exp(-117/100) \cdot \sin(663/500))/8 + 3/8,$
 $(51 \cdot \cos(2669/2000) \cdot \exp(-471/400))/40 - (9 \cdot \exp(-471/400) \cdot \sin(2669/2000))/8 + 3/8,$
 $(51 \cdot \cos(1343/1000) \cdot \exp(-237/200))/40 - (9 \cdot \exp(-237/200) \cdot \sin(1343/1000))/8 + 3/8,$
 $(51 \cdot \cos(2703/2000) \cdot \exp(-477/400))/40 - (9 \cdot \exp(-477/400) \cdot \sin(2703/2000))/8 + 3/8,$
 $(51 \cdot \cos(34/25) \cdot \exp(-6/5))/40 - (9 \cdot \exp(-6/5) \cdot \sin(34/25))/8 + 3/8,$
 $(51 \cdot \cos(2737/2000) \cdot \exp(-483/400))/40 - (9 \cdot \exp(-483/400) \cdot \sin(2737/2000))/8 + 3/8,$
 $(51 \cdot \cos(1377/1000) \cdot \exp(-243/200))/40 - (9 \cdot \exp(-243/200) \cdot \sin(1377/1000))/8 + 3/8,$
 $(51 \cdot \cos(2771/2000) \cdot \exp(-489/400))/40 - (9 \cdot \exp(-489/400) \cdot \sin(2771/2000))/8 + 3/8,$
 $(51 \cdot \cos(697/500) \cdot \exp(-123/100))/40 - (9 \cdot \exp(-123/100) \cdot \sin(697/500))/8 + 3/8,$
 $(51 \cdot \cos(561/400) \cdot \exp(-99/80))/40 - (9 \cdot \exp(-99/80) \cdot \sin(561/400))/8 + 3/8,$
 $(51 \cdot \cos(1411/1000) \cdot \exp(-249/200))/40 - (9 \cdot \exp(-249/200) \cdot \sin(1411/1000))/8 + 3/8,$
 $(51 \cdot \cos(2839/2000) \cdot \exp(-501/400))/40 - (9 \cdot \exp(-501/400) \cdot \sin(2839/2000))/8 + 3/8,$
 $(51 \cdot \cos(357/250) \cdot \exp(-63/50))/40 - (9 \cdot \exp(-63/50) \cdot \sin(357/250))/8 + 3/8,$
 $(51 \cdot \cos(2873/2000) \cdot \exp(-507/400))/40 - (9 \cdot \exp(-507/400) \cdot \sin(2873/2000))/8 + 3/8,$
 $(51 \cdot \cos(289/200) \cdot \exp(-51/40))/40 - (9 \cdot \exp(-51/40) \cdot \sin(289/200))/8 + 3/8,$
 $(51 \cdot \cos(2907/2000) \cdot \exp(-513/400))/40 - (9 \cdot \exp(-513/400) \cdot \sin(2907/2000))/8 + 3/8,$
 $(51 \cdot \cos(731/500) \cdot \exp(-129/100))/40 - (9 \cdot \exp(-129/100) \cdot \sin(731/500))/8 + 3/8,$
 $(51 \cdot \cos(2941/2000) \cdot \exp(-519/400))/40 - (9 \cdot \exp(-519/400) \cdot \sin(2941/2000))/8 + 3/8,$
 $(51 \cdot \cos(1479/1000) \cdot \exp(-$

$261/200)/40 - (9*\exp(-261/200)*\sin(1479/1000))/8 + 3/8,$
 $(51*\cos(119/80)*\exp(-21/16))/40 - (9*\exp(-21/16)*\sin(119/80))/8$
 $+ 3/8, (51*\cos(187/125)*\exp(-33/25))/40 - (9*\exp(-$
 $33/25)*\sin(187/125))/8 + 3/8, (51*\cos(3009/2000)*\exp(-$
 $531/400))/40 - (9*\exp(-531/400)*\sin(3009/2000))/8 + 3/8,$
 $(51*\cos(1513/1000)*\exp(-267/200))/40 - (9*\exp(-$
 $267/200)*\sin(1513/1000))/8 + 3/8, (51*\cos(3043/2000)*\exp(-$
 $537/400))/40 - (9*\exp(-537/400)*\sin(3043/2000))/8 + 3/8,$
 $(51*\cos(153/100)*\exp(-27/20))/40 - (9*\exp(-$
 $27/20)*\sin(153/100))/8 + 3/8, (51*\cos(3077/2000)*\exp(-$
 $543/400))/40 - (9*\exp(-543/400)*\sin(3077/2000))/8 + 3/8,$
 $(51*\cos(1547/1000)*\exp(-273/200))/40 - (9*\exp(-$
 $273/200)*\sin(1547/1000))/8 + 3/8, (51*\cos(3111/2000)*\exp(-$
 $549/400))/40 - (9*\exp(-549/400)*\sin(3111/2000))/8 + 3/8,$
 $(51*\cos(391/250)*\exp(-69/50))/40 - (9*\exp(-$
 $69/50)*\sin(391/250))/8 + 3/8, (51*\cos(629/400)*\exp(-111/80))/40$
 $- (9*\exp(-111/80)*\sin(629/400))/8 + 3/8,$
 $(51*\cos(1581/1000)*\exp(-279/200))/40 - (9*\exp(-$
 $279/200)*\sin(1581/1000))/8 + 3/8, (51*\cos(3179/2000)*\exp(-$
 $561/400))/40 - (9*\exp(-561/400)*\sin(3179/2000))/8 + 3/8,$
 $(51*\cos(799/500)*\exp(-141/100))/40 - (9*\exp(-$
 $141/100)*\sin(799/500))/8 + 3/8, (51*\cos(3213/2000)*\exp(-$
 $567/400))/40 - (9*\exp(-567/400)*\sin(3213/2000))/8 + 3/8,$
 $(51*\cos(323/200)*\exp(-57/40))/40 - (9*\exp(-$
 $57/40)*\sin(323/200))/8 + 3/8, (51*\cos(3247/2000)*\exp(-$
 $573/400))/40 - (9*\exp(-573/400)*\sin(3247/2000))/8 + 3/8,$
 $(51*\cos(204/125)*\exp(-36/25))/40 - (9*\exp(-$
 $36/25)*\sin(204/125))/8 + 3/8, (51*\cos(3281/2000)*\exp(-$
 $579/400))/40 - (9*\exp(-579/400)*\sin(3281/2000))/8 + 3/8,$
 $(51*\cos(1649/1000)*\exp(-291/200))/40 - (9*\exp(-$
 $291/200)*\sin(1649/1000))/8 + 3/8, (51*\cos(663/400)*\exp(-$
 $117/80))/40 - (9*\exp(-117/80)*\sin(663/400))/8 + 3/8,$
 $(51*\cos(833/500)*\exp(-147/100))/40 - (9*\exp(-$
 $147/100)*\sin(833/500))/8 + 3/8, (51*\cos(3349/2000)*\exp(-$
 $591/400))/40 - (9*\exp(-591/400)*\sin(3349/2000))/8 + 3/8,$
 $(51*\cos(1683/1000)*\exp(-297/200))/40 - (9*\exp(-$
 $297/200)*\sin(1683/1000))/8 + 3/8, (51*\cos(3383/2000)*\exp(-$
 $597/400))/40 - (9*\exp(-597/400)*\sin(3383/2000))/8 + 3/8,$
 $(51*\cos(17/10)*\exp(-3/2))/40 - (9*\exp(-3/2)*\sin(17/10))/8 + 3/8,$
 $(51*\cos(3417/2000)*\exp(-603/400))/40 - (9*\exp(-$
 $603/400)*\sin(3417/2000))/8 + 3/8, (51*\cos(1717/1000)*\exp(-$
 $303/200))/40 - (9*\exp(-303/200)*\sin(1717/1000))/8 + 3/8,$
 $(51*\cos(3451/2000)*\exp(-609/400))/40 - (9*\exp(-$
 $609/400)*\sin(3451/2000))/8 + 3/8, (51*\cos(867/500)*\exp(-$
 $153/100))/40 - (9*\exp(-153/100)*\sin(867/500))/8 + 3/8,$
 $(51*\cos(697/400)*\exp(-123/80))/40 - (9*\exp(-$
 $123/80)*\sin(697/400))/8 + 3/8, (51*\cos(1751/1000)*\exp(-$

$309/200)/40 - (9*\exp(-309/200)*\sin(1751/1000))/8 + 3/8,$
 $(51*\cos(3519/2000)*\exp(-621/400))/40 - (9*\exp(-$
 $621/400)*\sin(3519/2000))/8 + 3/8, (51*\cos(221/125)*\exp(-$
 $39/25))/40 - (9*\exp(-39/25)*\sin(221/125))/8 + 3/8,$
 $(51*\cos(3553/2000)*\exp(-627/400))/40 - (9*\exp(-$
 $627/400)*\sin(3553/2000))/8 + 3/8, (51*\cos(357/200)*\exp(-$
 $63/40))/40 - (9*\exp(-63/40)*\sin(357/200))/8 + 3/8,$
 $(51*\cos(3587/2000)*\exp(-633/400))/40 - (9*\exp(-$
 $633/400)*\sin(3587/2000))/8 + 3/8, (51*\cos(901/500)*\exp(-$
 $159/100))/40 - (9*\exp(-159/100)*\sin(901/500))/8 + 3/8,$
 $(51*\cos(3621/2000)*\exp(-639/400))/40 - (9*\exp(-$
 $639/400)*\sin(3621/2000))/8 + 3/8, (51*\cos(1819/1000)*\exp(-$
 $321/200))/40 - (9*\exp(-321/200)*\sin(1819/1000))/8 + 3/8,$
 $(51*\cos(731/400)*\exp(-129/80))/40 - (9*\exp(-$
 $129/80)*\sin(731/400))/8 + 3/8, (51*\cos(459/250)*\exp(-81/50))/40$
 $- (9*\exp(-81/50)*\sin(459/250))/8 + 3/8, (51*\cos(3689/2000)*\exp(-$
 $651/400))/40 - (9*\exp(-651/400)*\sin(3689/2000))/8 + 3/8,$
 $(51*\cos(1853/1000)*\exp(-327/200))/40 - (9*\exp(-$
 $327/200)*\sin(1853/1000))/8 + 3/8, (51*\cos(3723/2000)*\exp(-$
 $657/400))/40 - (9*\exp(-657/400)*\sin(3723/2000))/8 + 3/8,$
 $(51*\cos(187/100)*\exp(-33/20))/40 - (9*\exp(-$
 $33/20)*\sin(187/100))/8 + 3/8, (51*\cos(3757/2000)*\exp(-$
 $663/400))/40 - (9*\exp(-663/400)*\sin(3757/2000))/8 + 3/8,$
 $(51*\cos(1887/1000)*\exp(-333/200))/40 - (9*\exp(-$
 $333/200)*\sin(1887/1000))/8 + 3/8, (51*\cos(3791/2000)*\exp(-$
 $669/400))/40 - (9*\exp(-669/400)*\sin(3791/2000))/8 + 3/8,$
 $(51*\cos(238/125)*\exp(-42/25))/40 - (9*\exp(-$
 $42/25)*\sin(238/125))/8 + 3/8, (51*\cos(153/80)*\exp(-27/16))/40 -$
 $(9*\exp(-27/16)*\sin(153/80))/8 + 3/8, (51*\cos(1921/1000)*\exp(-$
 $339/200))/40 - (9*\exp(-339/200)*\sin(1921/1000))/8 + 3/8,$
 $(51*\cos(3859/2000)*\exp(-681/400))/40 - (9*\exp(-$
 $681/400)*\sin(3859/2000))/8 + 3/8, (51*\cos(969/500)*\exp(-$
 $171/100))/40 - (9*\exp(-171/100)*\sin(969/500))/8 + 3/8,$
 $(51*\cos(3893/2000)*\exp(-687/400))/40 - (9*\exp(-$
 $687/400)*\sin(3893/2000))/8 + 3/8, (51*\cos(391/200)*\exp(-$
 $69/40))/40 - (9*\exp(-69/40)*\sin(391/200))/8 + 3/8,$
 $(51*\cos(3927/2000)*\exp(-693/400))/40 - (9*\exp(-$
 $693/400)*\sin(3927/2000))/8 + 3/8, (51*\cos(493/250)*\exp(-$
 $87/50))/40 - (9*\exp(-87/50)*\sin(493/250))/8 + 3/8,$
 $(51*\cos(3961/2000)*\exp(-699/400))/40 - (9*\exp(-$
 $699/400)*\sin(3961/2000))/8 + 3/8, (51*\cos(1989/1000)*\exp(-$
 $351/200))/40 - (9*\exp(-351/200)*\sin(1989/1000))/8 + 3/8,$
 $(51*\cos(799/400)*\exp(-141/80))/40 - (9*\exp(-$
 $141/80)*\sin(799/400))/8 + 3/8, (51*\cos(1003/500)*\exp(-$
 $177/100))/40 - (9*\exp(-177/100)*\sin(1003/500))/8 + 3/8,$
 $(51*\cos(4029/2000)*\exp(-711/400))/40 - (9*\exp(-$
 $711/400)*\sin(4029/2000))/8 + 3/8, (51*\cos(2023/1000)*\exp(-$

$$\begin{aligned}
& 357/200)/40 - (9*\exp(-357/200)*\sin(2023/1000))/8 + 3/8, \\
& (51*\cos(4063/2000)*\exp(-717/400))/40 - (9*\exp(- \\
& 717/400)*\sin(4063/2000))/8 + 3/8, (51*\cos(51/25)*\exp(-9/5))/40 - \\
& (9*\exp(-9/5)*\sin(51/25))/8 + 3/8, (51*\cos(4097/2000)*\exp(- \\
& 723/400))/40 - (9*\exp(-723/400)*\sin(4097/2000))/8 + 3/8, \\
& (51*\cos(2057/1000)*\exp(-363/200))/40 - (9*\exp(- \\
& 363/200)*\sin(2057/1000))/8 + 3/8, (51*\cos(4131/2000)*\exp(- \\
& 729/400))/40 - (9*\exp(-729/400)*\sin(4131/2000))/8 + 3/8, \\
& (51*\cos(1037/500)*\exp(-183/100))/40 - (9*\exp(- \\
& 183/100)*\sin(1037/500))/8 + 3/8, (51*\cos(833/400)*\exp(- \\
& 147/80))/40 - (9*\exp(-147/80)*\sin(833/400))/8 + 3/8, \\
& (51*\cos(2091/1000)*\exp(-369/200))/40 - (9*\exp(- \\
& 369/200)*\sin(2091/1000))/8 + 3/8, (51*\cos(4199/2000)*\exp(- \\
& 741/400))/40 - (9*\exp(-741/400)*\sin(4199/2000))/8 + 3/8, \\
& (51*\cos(527/250)*\exp(-93/50))/40 - (9*\exp(- \\
& 93/50)*\sin(527/250))/8 + 3/8, (51*\cos(4233/2000)*\exp(- \\
& 747/400))/40 - (9*\exp(-747/400)*\sin(4233/2000))/8 + 3/8, \\
& (51*\cos(17/8)*\exp(-15/8))/40 - (9*\exp(-15/8)*\sin(17/8))/8 + 3/8]
\end{aligned}$$

a =

$$\begin{aligned}
& - (153*\cos((17*t)/20)*\exp(-(3*t)/4))/80 - \\
& (6*\sin((17*t)/20)*\exp(-(3*t)/4))/25
\end{aligned}$$

an =

$$\begin{aligned}
& [-153/80, - (153*\cos(17/2000)*\exp(-3/400))/80 - (6*\exp(- \\
& 3/400)*\sin(17/2000))/25, - (153*\cos(17/1000)*\exp(-3/200))/80 - \\
& (6*\exp(-3/200)*\sin(17/1000))/25, - (153*\cos(51/2000)*\exp(- \\
& 9/400))/80 - (6*\exp(-9/400)*\sin(51/2000))/25, - \\
& (153*\cos(17/500)*\exp(-3/100))/80 - (6*\exp(- \\
& 3/100)*\sin(17/500))/25, - (153*\cos(17/400)*\exp(-3/80))/80 - \\
& (6*\exp(-3/80)*\sin(17/400))/25, - (153*\cos(51/1000)*\exp(- \\
& 9/200))/80 - (6*\exp(-9/200)*\sin(51/1000))/25, - \\
& (153*\cos(119/2000)*\exp(-21/400))/80 - (6*\exp(- \\
& 21/400)*\sin(119/2000))/25, - (153*\cos(17/250)*\exp(-3/50))/80 - \\
& (6*\exp(-3/50)*\sin(17/250))/25, - (153*\cos(153/2000)*\exp(- \\
& 27/400))/80 - (6*\exp(-27/400)*\sin(153/2000))/25, - \\
& (153*\cos(17/200)*\exp(-3/40))/80 - (6*\exp(-3/40)*\sin(17/200))/25, \\
& - (153*\cos(187/2000)*\exp(-33/400))/80 - (6*\exp(- \\
& 33/400)*\sin(187/2000))/25, - (153*\cos(51/500)*\exp(-9/100))/80 - \\
& (6*\exp(-9/100)*\sin(51/500))/25, - (153*\cos(221/2000)*\exp(- \\
& 39/400))/80 - (6*\exp(-39/400)*\sin(221/2000))/25, - \\
& (153*\cos(119/1000)*\exp(-21/200))/80 - (6*\exp(- \\
& 21/200)*\sin(119/1000))/25, - (153*\cos(51/400)*\exp(-9/80))/80 -
\end{aligned}$$

$(6 \cdot \exp(-9/80) \cdot \sin(51/400))/25, - (153 \cdot \cos(17/125) \cdot \exp(-3/25))/80$
 $- (6 \cdot \exp(-3/25) \cdot \sin(17/125))/25, - (153 \cdot \cos(289/2000) \cdot \exp(-$
 $51/400))/80 - (6 \cdot \exp(-51/400) \cdot \sin(289/2000))/25, -$
 $(153 \cdot \cos(153/1000) \cdot \exp(-27/200))/80 - (6 \cdot \exp(-$
 $27/200) \cdot \sin(153/1000))/25, - (153 \cdot \cos(323/2000) \cdot \exp(-57/400))/80$
 $- (6 \cdot \exp(-57/400) \cdot \sin(323/2000))/25, - (153 \cdot \cos(17/100) \cdot \exp(-$
 $3/20))/80 - (6 \cdot \exp(-3/20) \cdot \sin(17/100))/25, -$
 $(153 \cdot \cos(357/2000) \cdot \exp(-63/400))/80 - (6 \cdot \exp(-$
 $63/400) \cdot \sin(357/2000))/25, - (153 \cdot \cos(187/1000) \cdot \exp(-33/200))/80$
 $- (6 \cdot \exp(-33/200) \cdot \sin(187/1000))/25, - (153 \cdot \cos(391/2000) \cdot \exp(-$
 $69/400))/80 - (6 \cdot \exp(-69/400) \cdot \sin(391/2000))/25, -$
 $(153 \cdot \cos(51/250) \cdot \exp(-9/50))/80 - (6 \cdot \exp(-9/50) \cdot \sin(51/250))/25,$
 $- (153 \cdot \cos(17/80) \cdot \exp(-3/16))/80 - (6 \cdot \exp(-3/16) \cdot \sin(17/80))/25,$
 $- (153 \cdot \cos(221/1000) \cdot \exp(-39/200))/80 - (6 \cdot \exp(-$
 $39/200) \cdot \sin(221/1000))/25, - (153 \cdot \cos(459/2000) \cdot \exp(-81/400))/80$
 $- (6 \cdot \exp(-81/400) \cdot \sin(459/2000))/25, - (153 \cdot \cos(119/500) \cdot \exp(-$
 $21/100))/80 - (6 \cdot \exp(-21/100) \cdot \sin(119/500))/25, -$
 $(153 \cdot \cos(493/2000) \cdot \exp(-87/400))/80 - (6 \cdot \exp(-$
 $87/400) \cdot \sin(493/2000))/25, - (153 \cdot \cos(51/200) \cdot \exp(-9/40))/80 -$
 $(6 \cdot \exp(-9/40) \cdot \sin(51/200))/25, - (153 \cdot \cos(527/2000) \cdot \exp(-$
 $93/400))/80 - (6 \cdot \exp(-93/400) \cdot \sin(527/2000))/25, -$
 $(153 \cdot \cos(34/125) \cdot \exp(-6/25))/80 - (6 \cdot \exp(-6/25) \cdot \sin(34/125))/25,$
 $- (153 \cdot \cos(561/2000) \cdot \exp(-99/400))/80 - (6 \cdot \exp(-$
 $99/400) \cdot \sin(561/2000))/25, - (153 \cdot \cos(289/1000) \cdot \exp(-51/200))/80$
 $- (6 \cdot \exp(-51/200) \cdot \sin(289/1000))/25, - (153 \cdot \cos(119/400) \cdot \exp(-$
 $21/80))/80 - (6 \cdot \exp(-21/80) \cdot \sin(119/400))/25, -$
 $(153 \cdot \cos(153/500) \cdot \exp(-27/100))/80 - (6 \cdot \exp(-$
 $27/100) \cdot \sin(153/500))/25, - (153 \cdot \cos(629/2000) \cdot \exp(-111/400))/80$
 $- (6 \cdot \exp(-111/400) \cdot \sin(629/2000))/25, - (153 \cdot \cos(323/1000) \cdot \exp(-$
 $57/200))/80 - (6 \cdot \exp(-57/200) \cdot \sin(323/1000))/25, -$
 $(153 \cdot \cos(663/2000) \cdot \exp(-117/400))/80 - (6 \cdot \exp(-$
 $117/400) \cdot \sin(663/2000))/25, - (153 \cdot \cos(17/50) \cdot \exp(-3/10))/80 -$
 $(6 \cdot \exp(-3/10) \cdot \sin(17/50))/25, - (153 \cdot \cos(697/2000) \cdot \exp(-$
 $123/400))/80 - (6 \cdot \exp(-123/400) \cdot \sin(697/2000))/25, -$
 $(153 \cdot \cos(357/1000) \cdot \exp(-63/200))/80 - (6 \cdot \exp(-$
 $63/200) \cdot \sin(357/1000))/25, - (153 \cdot \cos(731/2000) \cdot \exp(-$
 $129/400))/80 - (6 \cdot \exp(-129/400) \cdot \sin(731/2000))/25, -$
 $(153 \cdot \cos(187/500) \cdot \exp(-33/100))/80 - (6 \cdot \exp(-$
 $33/100) \cdot \sin(187/500))/25, - (153 \cdot \cos(153/400) \cdot \exp(-27/80))/80 -$
 $(6 \cdot \exp(-27/80) \cdot \sin(153/400))/25, - (153 \cdot \cos(391/1000) \cdot \exp(-$
 $69/200))/80 - (6 \cdot \exp(-69/200) \cdot \sin(391/1000))/25, -$
 $(153 \cdot \cos(799/2000) \cdot \exp(-141/400))/80 - (6 \cdot \exp(-$
 $141/400) \cdot \sin(799/2000))/25, - (153 \cdot \cos(51/125) \cdot \exp(-9/25))/80 -$
 $(6 \cdot \exp(-9/25) \cdot \sin(51/125))/25, - (153 \cdot \cos(833/2000) \cdot \exp(-$
 $147/400))/80 - (6 \cdot \exp(-147/400) \cdot \sin(833/2000))/25, -$
 $(153 \cdot \cos(17/40) \cdot \exp(-3/8))/80 - (6 \cdot \exp(-3/8) \cdot \sin(17/40))/25, -$
 $(153 \cdot \cos(867/2000) \cdot \exp(-153/400))/80 - (6 \cdot \exp(-$

$153/400) * \sin(867/2000)) / 25, - (153 * \cos(221/500) * \exp(-39/100)) / 80$
 $- (6 * \exp(-39/100) * \sin(221/500)) / 25, - (153 * \cos(901/2000) * \exp(-$
 $159/400)) / 80 - (6 * \exp(-159/400) * \sin(901/2000)) / 25, -$
 $(153 * \cos(459/1000) * \exp(-81/200)) / 80 - (6 * \exp(-$
 $81/200) * \sin(459/1000)) / 25, - (153 * \cos(187/400) * \exp(-33/80)) / 80 -$
 $(6 * \exp(-33/80) * \sin(187/400)) / 25, - (153 * \cos(119/250) * \exp(-$
 $21/50)) / 80 - (6 * \exp(-21/50) * \sin(119/250)) / 25, -$
 $(153 * \cos(969/2000) * \exp(-171/400)) / 80 - (6 * \exp(-$
 $171/400) * \sin(969/2000)) / 25, - (153 * \cos(493/1000) * \exp(-$
 $87/200)) / 80 - (6 * \exp(-87/200) * \sin(493/1000)) / 25, -$
 $(153 * \cos(1003/2000) * \exp(-177/400)) / 80 - (6 * \exp(-$
 $177/400) * \sin(1003/2000)) / 25, - (153 * \cos(51/100) * \exp(-9/20)) / 80 -$
 $(6 * \exp(-9/20) * \sin(51/100)) / 25, - (153 * \cos(1037/2000) * \exp(-$
 $183/400)) / 80 - (6 * \exp(-183/400) * \sin(1037/2000)) / 25, -$
 $(153 * \cos(527/1000) * \exp(-93/200)) / 80 - (6 * \exp(-$
 $93/200) * \sin(527/1000)) / 25, - (153 * \cos(1071/2000) * \exp(-$
 $189/400)) / 80 - (6 * \exp(-189/400) * \sin(1071/2000)) / 25, -$
 $(153 * \cos(68/125) * \exp(-12/25)) / 80 - (6 * \exp(-$
 $12/25) * \sin(68/125)) / 25, - (153 * \cos(221/400) * \exp(-39/80)) / 80 -$
 $(6 * \exp(-39/80) * \sin(221/400)) / 25, - (153 * \cos(561/1000) * \exp(-$
 $99/200)) / 80 - (6 * \exp(-99/200) * \sin(561/1000)) / 25, -$
 $(153 * \cos(1139/2000) * \exp(-201/400)) / 80 - (6 * \exp(-$
 $201/400) * \sin(1139/2000)) / 25, - (153 * \cos(289/500) * \exp(-$
 $51/100)) / 80 - (6 * \exp(-51/100) * \sin(289/500)) / 25, -$
 $(153 * \cos(1173/2000) * \exp(-207/400)) / 80 - (6 * \exp(-$
 $207/400) * \sin(1173/2000)) / 25, - (153 * \cos(119/200) * \exp(-21/40)) / 80$
 $- (6 * \exp(-21/40) * \sin(119/200)) / 25, - (153 * \cos(1207/2000) * \exp(-$
 $213/400)) / 80 - (6 * \exp(-213/400) * \sin(1207/2000)) / 25, -$
 $(153 * \cos(153/250) * \exp(-27/50)) / 80 - (6 * \exp(-$
 $27/50) * \sin(153/250)) / 25, - (153 * \cos(1241/2000) * \exp(-219/400)) / 80$
 $- (6 * \exp(-219/400) * \sin(1241/2000)) / 25, -$
 $(153 * \cos(629/1000) * \exp(-111/200)) / 80 - (6 * \exp(-$
 $111/200) * \sin(629/1000)) / 25, - (153 * \cos(51/80) * \exp(-9/16)) / 80 -$
 $(6 * \exp(-9/16) * \sin(51/80)) / 25, - (153 * \cos(323/500) * \exp(-$
 $57/100)) / 80 - (6 * \exp(-57/100) * \sin(323/500)) / 25, -$
 $(153 * \cos(1309/2000) * \exp(-231/400)) / 80 - (6 * \exp(-$
 $231/400) * \sin(1309/2000)) / 25, - (153 * \cos(663/1000) * \exp(-$
 $117/200)) / 80 - (6 * \exp(-117/200) * \sin(663/1000)) / 25, -$
 $(153 * \cos(1343/2000) * \exp(-237/400)) / 80 - (6 * \exp(-$
 $237/400) * \sin(1343/2000)) / 25, - (153 * \cos(17/25) * \exp(-3/5)) / 80 -$
 $(6 * \exp(-3/5) * \sin(17/25)) / 25, - (153 * \cos(1377/2000) * \exp(-$
 $243/400)) / 80 - (6 * \exp(-243/400) * \sin(1377/2000)) / 25, -$
 $(153 * \cos(697/1000) * \exp(-123/200)) / 80 - (6 * \exp(-$
 $123/200) * \sin(697/1000)) / 25, - (153 * \cos(1411/2000) * \exp(-$
 $249/400)) / 80 - (6 * \exp(-249/400) * \sin(1411/2000)) / 25, -$
 $(153 * \cos(357/500) * \exp(-63/100)) / 80 - (6 * \exp(-$
 $63/100) * \sin(357/500)) / 25, - (153 * \cos(289/400) * \exp(-51/80)) / 80 -$

$(6 \cdot \exp(-51/80) \cdot \sin(289/400))/25, - (153 \cdot \cos(731/1000) \cdot \exp(-129/200))/80 - (6 \cdot \exp(-129/200) \cdot \sin(731/1000))/25, -$
 $(153 \cdot \cos(1479/2000) \cdot \exp(-261/400))/80 - (6 \cdot \exp(-261/400) \cdot \sin(1479/2000))/25, - (153 \cdot \cos(187/250) \cdot \exp(-33/50))/80$
 $- (6 \cdot \exp(-33/50) \cdot \sin(187/250))/25, - (153 \cdot \cos(1513/2000) \cdot \exp(-267/400))/80 - (6 \cdot \exp(-267/400) \cdot \sin(1513/2000))/25, -$
 $(153 \cdot \cos(153/200) \cdot \exp(-27/40))/80 - (6 \cdot \exp(-27/40) \cdot \sin(153/200))/25, - (153 \cdot \cos(1547/2000) \cdot \exp(-273/400))/80$
 $- (6 \cdot \exp(-273/400) \cdot \sin(1547/2000))/25, - (153 \cdot \cos(391/500) \cdot \exp(-69/100))/80 - (6 \cdot \exp(-69/100) \cdot \sin(391/500))/25, -$
 $(153 \cdot \cos(1581/2000) \cdot \exp(-279/400))/80 - (6 \cdot \exp(-279/400) \cdot \sin(1581/2000))/25, - (153 \cdot \cos(799/1000) \cdot \exp(-141/200))/80$
 $- (6 \cdot \exp(-141/200) \cdot \sin(799/1000))/25, - (153 \cdot \cos(323/400) \cdot \exp(-57/80))/80 - (6 \cdot \exp(-57/80) \cdot \sin(323/400))/25,$
 $- (153 \cdot \cos(102/125) \cdot \exp(-18/25))/80 - (6 \cdot \exp(-18/25) \cdot \sin(102/125))/25, - (153 \cdot \cos(1649/2000) \cdot \exp(-291/400))/80$
 $- (6 \cdot \exp(-291/400) \cdot \sin(1649/2000))/25, - (153 \cdot \cos(833/1000) \cdot \exp(-147/200))/80 - (6 \cdot \exp(-147/200) \cdot \sin(833/1000))/25,$
 $- (153 \cdot \cos(1683/2000) \cdot \exp(-297/400))/80 - (6 \cdot \exp(-297/400) \cdot \sin(1683/2000))/25, - (153 \cdot \cos(17/20) \cdot \exp(-3/4))/80$
 $- (6 \cdot \exp(-3/4) \cdot \sin(17/20))/25, - (153 \cdot \cos(1717/2000) \cdot \exp(-303/400))/80 - (6 \cdot \exp(-303/400) \cdot \sin(1717/2000))/25,$
 $- (153 \cdot \cos(867/1000) \cdot \exp(-153/200))/80 - (6 \cdot \exp(-153/200) \cdot \sin(867/1000))/25, - (153 \cdot \cos(1751/2000) \cdot \exp(-309/400))/80$
 $- (6 \cdot \exp(-309/400) \cdot \sin(1751/2000))/25, - (153 \cdot \cos(221/250) \cdot \exp(-39/50))/80 - (6 \cdot \exp(-39/50) \cdot \sin(221/250))/25,$
 $- (153 \cdot \cos(357/400) \cdot \exp(-63/80))/80 - (6 \cdot \exp(-63/80) \cdot \sin(357/400))/25, - (153 \cdot \cos(901/1000) \cdot \exp(-159/200))/80$
 $- (6 \cdot \exp(-159/200) \cdot \sin(901/1000))/25, - (153 \cdot \cos(1819/2000) \cdot \exp(-321/400))/80 - (6 \cdot \exp(-321/400) \cdot \sin(1819/2000))/25,$
 $- (153 \cdot \cos(459/500) \cdot \exp(-81/100))/80 - (6 \cdot \exp(-81/100) \cdot \sin(459/500))/25, - (153 \cdot \cos(1853/2000) \cdot \exp(-327/400))/80$
 $- (6 \cdot \exp(-327/400) \cdot \sin(1853/2000))/25, - (153 \cdot \cos(187/200) \cdot \exp(-33/40))/80 - (6 \cdot \exp(-33/40) \cdot \sin(187/200))/25,$
 $- (153 \cdot \cos(1887/2000) \cdot \exp(-333/400))/80 - (6 \cdot \exp(-333/400) \cdot \sin(1887/2000))/25, - (153 \cdot \cos(119/125) \cdot \exp(-21/25))/80$
 $- (6 \cdot \exp(-21/25) \cdot \sin(119/125))/25, - (153 \cdot \cos(1921/2000) \cdot \exp(-339/400))/80 - (6 \cdot \exp(-339/400) \cdot \sin(1921/2000))/25,$
 $- (153 \cdot \cos(969/1000) \cdot \exp(-171/200))/80 - (6 \cdot \exp(-171/200) \cdot \sin(969/1000))/25, - (153 \cdot \cos(391/400) \cdot \exp(-69/80))/80$
 $- (6 \cdot \exp(-69/80) \cdot \sin(391/400))/25, - (153 \cdot \cos(493/500) \cdot \exp(-87/100))/80 - (6 \cdot \exp(-87/100) \cdot \sin(493/500))/25,$
 $- (153 \cdot \cos(1989/2000) \cdot \exp(-351/400))/80 - (6 \cdot \exp(-351/400) \cdot \sin(1989/2000))/25, - (153 \cdot \cos(1003/1000) \cdot \exp(-177/200))/80$
 $- (6 \cdot \exp(-177/200) \cdot \sin(1003/1000))/25, - (153 \cdot \cos(2023/2000) \cdot \exp(-$

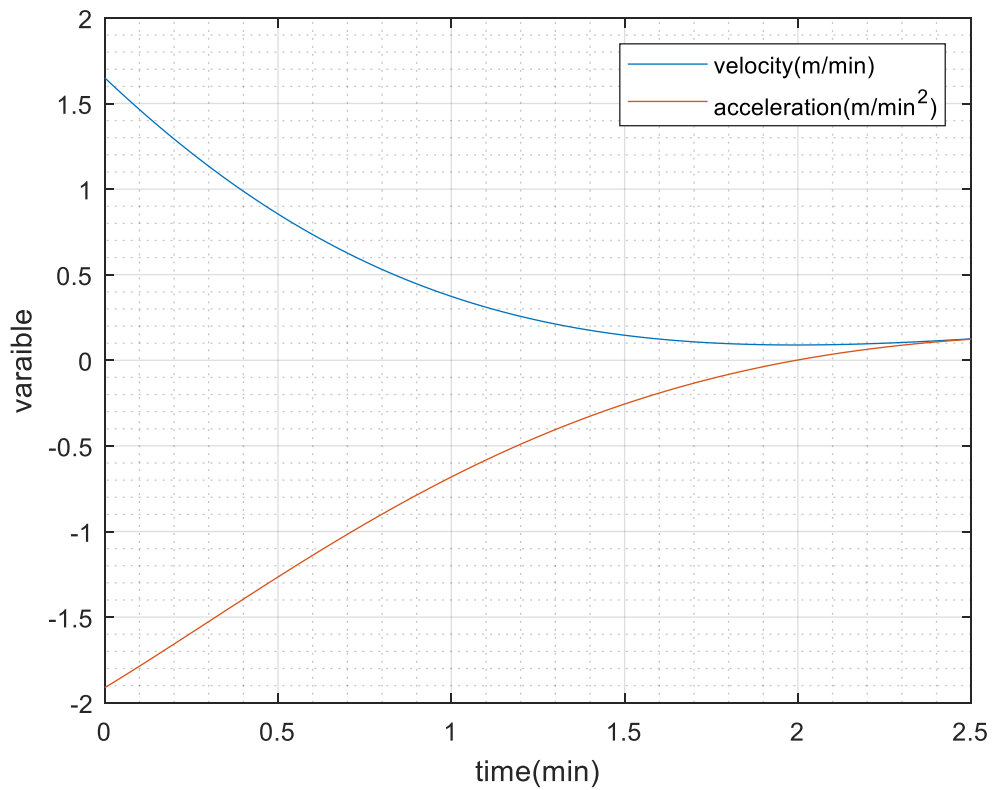
$357/400)/80 - (6*\exp(-357/400)*\sin(2023/2000))/25, -$
 $(153*\cos(51/50)*\exp(-9/10))/80 - (6*\exp(-9/10)*\sin(51/50))/25, -$
 $(153*\cos(2057/2000)*\exp(-363/400))/80 - (6*\exp(-$
 $363/400)*\sin(2057/2000))/25, - (153*\cos(1037/1000)*\exp(-$
 $183/200))/80 - (6*\exp(-183/200)*\sin(1037/1000))/25, -$
 $(153*\cos(2091/2000)*\exp(-369/400))/80 - (6*\exp(-$
 $369/400)*\sin(2091/2000))/25, - (153*\cos(527/500)*\exp(-$
 $93/100))/80 - (6*\exp(-93/100)*\sin(527/500))/25, -$
 $(153*\cos(17/16)*\exp(-15/16))/80 - (6*\exp(-15/16)*\sin(17/16))/25,$
 $- (153*\cos(1071/1000)*\exp(-189/200))/80 - (6*\exp(-$
 $189/200)*\sin(1071/1000))/25, - (153*\cos(2159/2000)*\exp(-$
 $381/400))/80 - (6*\exp(-381/400)*\sin(2159/2000))/25, -$
 $(153*\cos(136/125)*\exp(-24/25))/80 - (6*\exp(-$
 $24/25)*\sin(136/125))/25, - (153*\cos(2193/2000)*\exp(-387/400))/80$
 $- (6*\exp(-387/400)*\sin(2193/2000))/25, - (153*\cos(221/200)*\exp(-$
 $39/40))/80 - (6*\exp(-39/40)*\sin(221/200))/25, -$
 $(153*\cos(2227/2000)*\exp(-393/400))/80 - (6*\exp(-$
 $393/400)*\sin(2227/2000))/25, - (153*\cos(561/500)*\exp(-$
 $99/100))/80 - (6*\exp(-99/100)*\sin(561/500))/25, -$
 $(153*\cos(2261/2000)*\exp(-399/400))/80 - (6*\exp(-$
 $399/400)*\sin(2261/2000))/25, - (153*\cos(1139/1000)*\exp(-$
 $201/200))/80 - (6*\exp(-201/200)*\sin(1139/1000))/25, -$
 $(153*\cos(459/400)*\exp(-81/80))/80 - (6*\exp(-$
 $81/80)*\sin(459/400))/25, - (153*\cos(289/250)*\exp(-51/50))/80 -$
 $(6*\exp(-51/50)*\sin(289/250))/25, - (153*\cos(2329/2000)*\exp(-$
 $411/400))/80 - (6*\exp(-411/400)*\sin(2329/2000))/25, -$
 $(153*\cos(1173/1000)*\exp(-207/200))/80 - (6*\exp(-$
 $207/200)*\sin(1173/1000))/25, - (153*\cos(2363/2000)*\exp(-$
 $417/400))/80 - (6*\exp(-417/400)*\sin(2363/2000))/25, -$
 $(153*\cos(119/100)*\exp(-21/20))/80 - (6*\exp(-$
 $21/20)*\sin(119/100))/25, - (153*\cos(2397/2000)*\exp(-423/400))/80$
 $- (6*\exp(-423/400)*\sin(2397/2000))/25, -$
 $(153*\cos(1207/1000)*\exp(-213/200))/80 - (6*\exp(-$
 $213/200)*\sin(1207/1000))/25, - (153*\cos(2431/2000)*\exp(-$
 $429/400))/80 - (6*\exp(-429/400)*\sin(2431/2000))/25, -$
 $(153*\cos(153/125)*\exp(-27/25))/80 - (6*\exp(-$
 $27/25)*\sin(153/125))/25, - (153*\cos(493/400)*\exp(-87/80))/80 -$
 $(6*\exp(-87/80)*\sin(493/400))/25, - (153*\cos(1241/1000)*\exp(-$
 $219/200))/80 - (6*\exp(-219/200)*\sin(1241/1000))/25, -$
 $(153*\cos(2499/2000)*\exp(-441/400))/80 - (6*\exp(-$
 $441/400)*\sin(2499/2000))/25, - (153*\cos(629/500)*\exp(-$
 $111/100))/80 - (6*\exp(-111/100)*\sin(629/500))/25, -$
 $(153*\cos(2533/2000)*\exp(-447/400))/80 - (6*\exp(-$
 $447/400)*\sin(2533/2000))/25, - (153*\cos(51/40)*\exp(-9/8))/80 -$
 $(6*\exp(-9/8)*\sin(51/40))/25, - (153*\cos(2567/2000)*\exp(-$
 $453/400))/80 - (6*\exp(-453/400)*\sin(2567/2000))/25, -$
 $(153*\cos(323/250)*\exp(-57/50))/80 - (6*\exp(-$

$57/50) * \sin(323/250)) / 25, - (153 * \cos(2601/2000) * \exp(-459/400)) / 80$
 $- (6 * \exp(-459/400) * \sin(2601/2000)) / 25, -$
 $(153 * \cos(1309/1000) * \exp(-231/200)) / 80 - (6 * \exp(-$
 $231/200) * \sin(1309/1000)) / 25, - (153 * \cos(527/400) * \exp(-93/80)) / 80$
 $- (6 * \exp(-93/80) * \sin(527/400)) / 25, - (153 * \cos(663/500) * \exp(-$
 $117/100)) / 80 - (6 * \exp(-117/100) * \sin(663/500)) / 25, -$
 $(153 * \cos(2669/2000) * \exp(-471/400)) / 80 - (6 * \exp(-$
 $471/400) * \sin(2669/2000)) / 25, - (153 * \cos(1343/1000) * \exp(-$
 $237/200)) / 80 - (6 * \exp(-237/200) * \sin(1343/1000)) / 25, -$
 $(153 * \cos(2703/2000) * \exp(-477/400)) / 80 - (6 * \exp(-$
 $477/400) * \sin(2703/2000)) / 25, - (153 * \cos(34/25) * \exp(-6/5)) / 80 -$
 $(6 * \exp(-6/5) * \sin(34/25)) / 25, - (153 * \cos(2737/2000) * \exp(-$
 $483/400)) / 80 - (6 * \exp(-483/400) * \sin(2737/2000)) / 25, -$
 $(153 * \cos(1377/1000) * \exp(-243/200)) / 80 - (6 * \exp(-$
 $243/200) * \sin(1377/1000)) / 25, - (153 * \cos(2771/2000) * \exp(-$
 $489/400)) / 80 - (6 * \exp(-489/400) * \sin(2771/2000)) / 25, -$
 $(153 * \cos(697/500) * \exp(-123/100)) / 80 - (6 * \exp(-$
 $123/100) * \sin(697/500)) / 25, - (153 * \cos(561/400) * \exp(-99/80)) / 80 -$
 $(6 * \exp(-99/80) * \sin(561/400)) / 25, - (153 * \cos(1411/1000) * \exp(-$
 $249/200)) / 80 - (6 * \exp(-249/200) * \sin(1411/1000)) / 25, -$
 $(153 * \cos(2839/2000) * \exp(-501/400)) / 80 - (6 * \exp(-$
 $501/400) * \sin(2839/2000)) / 25, - (153 * \cos(357/250) * \exp(-63/50)) / 80$
 $- (6 * \exp(-63/50) * \sin(357/250)) / 25, - (153 * \cos(2873/2000) * \exp(-$
 $507/400)) / 80 - (6 * \exp(-507/400) * \sin(2873/2000)) / 25, -$
 $(153 * \cos(289/200) * \exp(-51/40)) / 80 - (6 * \exp(-$
 $51/40) * \sin(289/200)) / 25, - (153 * \cos(2907/2000) * \exp(-513/400)) / 80$
 $- (6 * \exp(-513/400) * \sin(2907/2000)) / 25, - (153 * \cos(731/500) * \exp(-$
 $129/100)) / 80 - (6 * \exp(-129/100) * \sin(731/500)) / 25, -$
 $(153 * \cos(2941/2000) * \exp(-519/400)) / 80 - (6 * \exp(-$
 $519/400) * \sin(2941/2000)) / 25, - (153 * \cos(1479/1000) * \exp(-$
 $261/200)) / 80 - (6 * \exp(-261/200) * \sin(1479/1000)) / 25, -$
 $(153 * \cos(119/80) * \exp(-21/16)) / 80 - (6 * \exp(-$
 $21/16) * \sin(119/80)) / 25, - (153 * \cos(187/125) * \exp(-33/25)) / 80 -$
 $(6 * \exp(-33/25) * \sin(187/125)) / 25, - (153 * \cos(3009/2000) * \exp(-$
 $531/400)) / 80 - (6 * \exp(-531/400) * \sin(3009/2000)) / 25, -$
 $(153 * \cos(1513/1000) * \exp(-267/200)) / 80 - (6 * \exp(-$
 $267/200) * \sin(1513/1000)) / 25, - (153 * \cos(3043/2000) * \exp(-$
 $537/400)) / 80 - (6 * \exp(-537/400) * \sin(3043/2000)) / 25, -$
 $(153 * \cos(153/100) * \exp(-27/20)) / 80 - (6 * \exp(-$
 $27/20) * \sin(153/100)) / 25, - (153 * \cos(3077/2000) * \exp(-543/400)) / 80$
 $- (6 * \exp(-543/400) * \sin(3077/2000)) / 25, -$
 $(153 * \cos(1547/1000) * \exp(-273/200)) / 80 - (6 * \exp(-$
 $273/200) * \sin(1547/1000)) / 25, - (153 * \cos(3111/2000) * \exp(-$
 $549/400)) / 80 - (6 * \exp(-549/400) * \sin(3111/2000)) / 25, -$
 $(153 * \cos(391/250) * \exp(-69/50)) / 80 - (6 * \exp(-$
 $69/50) * \sin(391/250)) / 25, - (153 * \cos(629/400) * \exp(-111/80)) / 80 -$
 $(6 * \exp(-111/80) * \sin(629/400)) / 25, - (153 * \cos(1581/1000) * \exp(-$

$279/200)/80 - (6*\exp(-279/200)*\sin(1581/1000))/25, -$
 $(153*\cos(3179/2000)*\exp(-561/400))/80 - (6*\exp(-$
 $561/400)*\sin(3179/2000))/25, - (153*\cos(799/500)*\exp(-$
 $141/100))/80 - (6*\exp(-141/100)*\sin(799/500))/25, -$
 $(153*\cos(3213/2000)*\exp(-567/400))/80 - (6*\exp(-$
 $567/400)*\sin(3213/2000))/25, - (153*\cos(323/200)*\exp(-57/40))/80$
 $- (6*\exp(-57/40)*\sin(323/200))/25, - (153*\cos(3247/2000)*\exp(-$
 $573/400))/80 - (6*\exp(-573/400)*\sin(3247/2000))/25, -$
 $(153*\cos(204/125)*\exp(-36/25))/80 - (6*\exp(-$
 $36/25)*\sin(204/125))/25, - (153*\cos(3281/2000)*\exp(-579/400))/80$
 $- (6*\exp(-579/400)*\sin(3281/2000))/25, -$
 $(153*\cos(1649/1000)*\exp(-291/200))/80 - (6*\exp(-$
 $291/200)*\sin(1649/1000))/25, - (153*\cos(663/400)*\exp(-$
 $117/80))/80 - (6*\exp(-117/80)*\sin(663/400))/25, -$
 $(153*\cos(833/500)*\exp(-147/100))/80 - (6*\exp(-$
 $147/100)*\sin(833/500))/25, - (153*\cos(3349/2000)*\exp(-$
 $591/400))/80 - (6*\exp(-591/400)*\sin(3349/2000))/25, -$
 $(153*\cos(1683/1000)*\exp(-297/200))/80 - (6*\exp(-$
 $297/200)*\sin(1683/1000))/25, - (153*\cos(3383/2000)*\exp(-$
 $597/400))/80 - (6*\exp(-597/400)*\sin(3383/2000))/25, -$
 $(153*\cos(17/10)*\exp(-3/2))/80 - (6*\exp(-3/2)*\sin(17/10))/25, -$
 $(153*\cos(3417/2000)*\exp(-603/400))/80 - (6*\exp(-$
 $603/400)*\sin(3417/2000))/25, - (153*\cos(1717/1000)*\exp(-$
 $303/200))/80 - (6*\exp(-303/200)*\sin(1717/1000))/25, -$
 $(153*\cos(3451/2000)*\exp(-609/400))/80 - (6*\exp(-$
 $609/400)*\sin(3451/2000))/25, - (153*\cos(867/500)*\exp(-$
 $153/100))/80 - (6*\exp(-153/100)*\sin(867/500))/25, -$
 $(153*\cos(697/400)*\exp(-123/80))/80 - (6*\exp(-$
 $123/80)*\sin(697/400))/25, - (153*\cos(1751/1000)*\exp(-$
 $309/200))/80 - (6*\exp(-309/200)*\sin(1751/1000))/25, -$
 $(153*\cos(3519/2000)*\exp(-621/400))/80 - (6*\exp(-$
 $621/400)*\sin(3519/2000))/25, - (153*\cos(221/125)*\exp(-39/25))/80$
 $- (6*\exp(-39/25)*\sin(221/125))/25, - (153*\cos(3553/2000)*\exp(-$
 $627/400))/80 - (6*\exp(-627/400)*\sin(3553/2000))/25, -$
 $(153*\cos(357/200)*\exp(-63/40))/80 - (6*\exp(-$
 $63/40)*\sin(357/200))/25, - (153*\cos(3587/2000)*\exp(-633/400))/80$
 $- (6*\exp(-633/400)*\sin(3587/2000))/25, - (153*\cos(901/500)*\exp(-$
 $159/100))/80 - (6*\exp(-159/100)*\sin(901/500))/25, -$
 $(153*\cos(3621/2000)*\exp(-639/400))/80 - (6*\exp(-$
 $639/400)*\sin(3621/2000))/25, - (153*\cos(1819/1000)*\exp(-$
 $321/200))/80 - (6*\exp(-321/200)*\sin(1819/1000))/25, -$
 $(153*\cos(731/400)*\exp(-129/80))/80 - (6*\exp(-$
 $129/80)*\sin(731/400))/25, - (153*\cos(459/250)*\exp(-81/50))/80 -$
 $(6*\exp(-81/50)*\sin(459/250))/25, - (153*\cos(3689/2000)*\exp(-$
 $651/400))/80 - (6*\exp(-651/400)*\sin(3689/2000))/25, -$
 $(153*\cos(1853/1000)*\exp(-327/200))/80 - (6*\exp(-$
 $327/200)*\sin(1853/1000))/25, - (153*\cos(3723/2000)*\exp(-$

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

—



3.

INPUT

```
commandwindow
clear
clc
syms x
y= 5*(sin(5*x))^5
v = int(3.142*y^2,0,3.142)
e = double(v)
```

OUTPUT

y =

5*sin(5*x)^5

v =

$$(4713 \cdot \sin(1571/25))/5120 - (1571 \cdot \sin(1571/10))/512000 - (32991 \cdot \sin(1571/50))/10240 + (1571 \cdot \sin(3142/25))/40960 - (4713 \cdot \sin(4713/50))/20480 + 155486583/2560000$$

e =

60.7291