

Nwankwo nwachukwu elect/elect 200level 16/eng04/036

Question 1

commandwindow

clear

clc

clear all

x=[0,10,4,-2;-3,-17,1,2;1,1,1,0;8,-34,16,-10]

y=[-4,2,6,4]

B=y'

A=x^-1

wxyz= (A)\*B

answer

x =

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

y =

-4	2	6	4
----	---	---	---

B =

-4
2
6
4

A =

-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

wxyz =

4.0000
-0.0000
2.0000
6.0000

```

>>
Question2
commandwindow
clear
clc
close all
syms t
d=1.5*(exp(0.75*t))*sin(0.85*t)+0.375*t
tn=[0:0.01:3.5]
dn=subs(d,tn)
dd=diff(d)
ddn=subs(dd,tn)
figure (1)
plot(tn,ddn)
xlabel('velocity')
ylabel('time')
grid on
grid minor
figure (2)
ddd=diff(dd)
dddn=subs(ddd,tn)
plot(tn,dddn)
xlabel('acceleration')
ylabel('time')
grid on
grid minor
figure (3)
plot(tn,ddn,tn,dddn);
grid on
grid minor
ylabel('variable')
xlabel('time')
legend('velocity (m/min)', 'acceleration (m/min^2)')
answer

```

d =

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

tn =

Columns 1 through 8

	0	0.01	0.02	0.03
0.04	0.05	0.06	0.07	

Columns 9 through 16

	0.08	0.09	0.10	0.11
0.12	0.13	0.14	0.15	

Columns 17 through 24

	0.16	0.17	0.18	0.19
0.20	0.21	0.22	0.23	

Columns 25 through 32

	0.24	0.25	0.26	0.27
0.28	0.29	0.30	0.31	

Columns 33 through 40

	0.32	0.33	0.34	0.35
0.36	0.37	0.38	0.39	

Columns 41 through 48

	0.40	0.41	0.42	0.43
0.44	0.45	0.46	0.47	

Columns 49 through 56

	0.48	0.49	0.50	0.51
0.52	0.53	0.54	0.55	

Columns 57 through 64

	0.56	0.57	0.58	0.59
0.60	0.61	0.62	0.63	

Columns 65 through 72

	0.64	0.65	0.66	0.67
0.68	0.69	0.70	0.71	

Columns 73 through 80

	0.72	0.73	0.74	0.75
0.76	0.77	0.78	0.79	

Columns 81 through 88

	0.80	0.81	0.82	0.83
0.84	0.85	0.86	0.87	

Columns 89 through 96

0.92	0.88	0.89	0.90	0.91
	0.93	0.94	0.95	

Columns 97 through 104

1.00	0.96	0.97	0.98	0.99
	1.01	1.02	1.03	

Columns 105 through 112

1.08	1.04	1.05	1.06	1.07
	1.09	1.10	1.11	

Columns 113 through 120

1.16	1.12	1.13	1.14	1.15
	1.17	1.18	1.19	

Columns 121 through 128

1.24	1.20	1.21	1.22	1.23
	1.25	1.26	1.27	

Columns 129 through 136

1.32	1.28	1.29	1.30	1.31
	1.33	1.34	1.35	

Columns 137 through 144

1.40	1.36	1.37	1.38	1.39
	1.41	1.42	1.43	

Columns 145 through 152

1.48	1.44	1.45	1.46	1.47
	1.49	1.50	1.51	

Columns 153 through 160

1.56	1.52	1.53	1.54	1.55
	1.57	1.58	1.59	

Columns 161 through 168

1.64	1.60	1.61	1.62	1.63
	1.65	1.66	1.67	

Columns 169 through 176

1.72	1.68	1.69	1.70	1.71
	1.73	1.74	1.75	

Columns 177 through 184

1.80	1.76	1.77	1.78	1.79
	1.81	1.82	1.83	

Columns 185 through 192

1.88	1.84	1.85	1.86	1.87
	1.89	1.90	1.91	

Columns 193 through 200

1.96	1.92	1.93	1.94	1.95
	1.97	1.98	1.99	

Columns 201 through 208

2.04	2.00	2.01	2.02	2.03
	2.05	2.06	2.07	

Columns 209 through 216

2.12	2.08	2.09	2.10	2.11
	2.13	2.14	2.15	

Columns 217 through 224

2.20	2.16	2.17	2.18	2.19
	2.21	2.22	2.23	

Columns 225 through 232

2.28	2.24	2.25	2.26	2.27
	2.29	2.30	2.31	

Columns 233 through 240

2.36	2.32	2.33	2.34	2.35
	2.37	2.38	2.39	

Columns 241 through 248

2.44            2.40                    2.41                    2.42                    2.43  
                  2.45                    2.46                    2.47

Columns 249 through 256

2.52            2.48                    2.49                    2.50                    2.51  
                  2.53                    2.54                    2.55

Columns 257 through 264

2.60            2.56                    2.57                    2.58                    2.59  
                  2.61                    2.62                    2.63

Columns 265 through 272

2.68            2.64                    2.65                    2.66                    2.67  
                  2.69                    2.70                    2.71

Columns 273 through 280

2.76            2.72                    2.73                    2.74                    2.75  
                  2.77                    2.78                    2.79

Columns 281 through 288

2.84            2.80                    2.81                    2.82                    2.83  
                  2.85                    2.86                    2.87

Columns 289 through 296

2.92            2.88                    2.89                    2.90                    2.91  
                  2.93                    2.94                    2.95

Columns 297 through 304

3.00            2.96                    2.97                    2.98                    2.99  
                  3.01                    3.02                    3.03

Columns 305 through 312

3.08            3.04                    3.05                    3.06                    3.07  
                  3.09                    3.10                    3.11

Columns 313 through 320

	3.12	3.13	3.14	3.15
3.16	3.17	3.18	3.19	

Columns 321 through 328

	3.20	3.21	3.22	3.23
3.24	3.25	3.26	3.27	

Columns 329 through 336

	3.28	3.29	3.30	3.31
3.32	3.33	3.34	3.35	

Columns 337 through 344

	3.36	3.37	3.38	3.39
3.40	3.41	3.42	3.43	

Columns 345 through 351

	3.44	3.45	3.46	3.47
3.48	3.49	3.50		

dn =

```
[ 0, (3*exp(3/400)*sin(17/2000))/2 + 3/800,
(3*exp(3/200)*sin(17/1000))/2 + 3/400,
(3*exp(9/400)*sin(51/2000))/2 + 9/800,
(3*exp(3/100)*sin(17/500))/2 + 3/200,
(3*exp(3/80)*sin(17/400))/2 + 3/160,
(3*exp(9/200)*sin(51/1000))/2 + 9/400,
(3*exp(21/400)*sin(119/2000))/2 + 21/800,
(3*exp(3/50)*sin(17/250))/2 + 3/100,
(3*exp(27/400)*sin(153/2000))/2 + 27/800,
(3*exp(3/40)*sin(17/200))/2 + 3/80,
(3*exp(33/400)*sin(187/2000))/2 + 33/800,
(3*exp(9/100)*sin(51/500))/2 + 9/200,
(3*exp(39/400)*sin(221/2000))/2 + 39/800,
(3*exp(21/200)*sin(119/1000))/2 + 21/400,
(3*exp(9/80)*sin(51/400))/2 + 9/160, (3*exp(3/25)*sin(17/125))/2
+ 3/50, (3*exp(51/400)*sin(289/2000))/2 + 51/800,
(3*exp(27/200)*sin(153/1000))/2 + 27/400,
(3*exp(57/400)*sin(323/2000))/2 + 57/800,
(3*exp(3/20)*sin(17/100))/2 + 3/40,
(3*exp(63/400)*sin(357/2000))/2 + 63/800,
(3*exp(33/200)*sin(187/1000))/2 + 33/400,
```

$(3*\exp(69/400)*\sin(391/2000))/2 + 69/800,$   
 $(3*\exp(9/50)*\sin(51/250))/2 + 9/100, (3*\exp(3/16)*\sin(17/80))/2$   
 $+ 3/32, (3*\exp(39/200)*\sin(221/1000))/2 + 39/400,$   
 $(3*\exp(81/400)*\sin(459/2000))/2 + 81/800,$   
 $(3*\exp(21/100)*\sin(119/500))/2 + 21/200,$   
 $(3*\exp(87/400)*\sin(493/2000))/2 + 87/800,$   
 $(3*\exp(9/40)*\sin(51/200))/2 + 9/80,$   
 $(3*\exp(93/400)*\sin(527/2000))/2 + 93/800,$   
 $(3*\exp(6/25)*\sin(34/125))/2 + 3/25,$   
 $(3*\exp(99/400)*\sin(561/2000))/2 + 99/800,$   
 $(3*\exp(51/200)*\sin(289/1000))/2 + 51/400,$   
 $(3*\exp(21/80)*\sin(119/400))/2 + 21/160,$   
 $(3*\exp(27/100)*\sin(153/500))/2 + 27/200,$   
 $(3*\exp(111/400)*\sin(629/2000))/2 + 111/800,$   
 $(3*\exp(57/200)*\sin(323/1000))/2 + 57/400,$   
 $(3*\exp(117/400)*\sin(663/2000))/2 + 117/800,$   
 $(3*\exp(3/10)*\sin(17/50))/2 + 3/20,$   
 $(3*\exp(123/400)*\sin(697/2000))/2 + 123/800,$   
 $(3*\exp(63/200)*\sin(357/1000))/2 + 63/400,$   
 $(3*\exp(129/400)*\sin(731/2000))/2 + 129/800,$   
 $(3*\exp(33/100)*\sin(187/500))/2 + 33/200,$   
 $(3*\exp(27/80)*\sin(153/400))/2 + 27/160,$   
 $(3*\exp(69/200)*\sin(391/1000))/2 + 69/400,$   
 $(3*\exp(141/400)*\sin(799/2000))/2 + 141/800,$   
 $(3*\exp(9/25)*\sin(51/125))/2 + 9/50,$   
 $(3*\exp(147/400)*\sin(833/2000))/2 + 147/800,$   
 $(3*\exp(3/8)*\sin(17/40))/2 + 3/16,$   
 $(3*\exp(153/400)*\sin(867/2000))/2 + 153/800,$   
 $(3*\exp(39/100)*\sin(221/500))/2 + 39/200,$   
 $(3*\exp(159/400)*\sin(901/2000))/2 + 159/800,$   
 $(3*\exp(81/200)*\sin(459/1000))/2 + 81/400,$   
 $(3*\exp(33/80)*\sin(187/400))/2 + 33/160,$   
 $(3*\exp(21/50)*\sin(119/250))/2 + 21/100,$   
 $(3*\exp(171/400)*\sin(969/2000))/2 + 171/800,$   
 $(3*\exp(87/200)*\sin(493/1000))/2 + 87/400,$   
 $(3*\exp(177/400)*\sin(1003/2000))/2 + 177/800,$   
 $(3*\exp(9/20)*\sin(51/100))/2 + 9/40,$   
 $(3*\exp(183/400)*\sin(1037/2000))/2 + 183/800,$   
 $(3*\exp(93/200)*\sin(527/1000))/2 + 93/400,$   
 $(3*\exp(189/400)*\sin(1071/2000))/2 + 189/800,$   
 $(3*\exp(12/25)*\sin(68/125))/2 + 6/25,$   
 $(3*\exp(39/80)*\sin(221/400))/2 + 39/160,$   
 $(3*\exp(99/200)*\sin(561/1000))/2 + 99/400,$   
 $(3*\exp(201/400)*\sin(1139/2000))/2 + 201/800,$   
 $(3*\exp(51/100)*\sin(289/500))/2 + 51/200,$   
 $(3*\exp(207/400)*\sin(1173/2000))/2 + 207/800,$   
 $(3*\exp(21/40)*\sin(119/200))/2 + 21/80,$



$(3*\exp(213/400)*\sin(1207/2000))/2 + 213/800,$   
 $(3*\exp(27/50)*\sin(153/250))/2 + 27/100,$   
 $(3*\exp(219/400)*\sin(1241/2000))/2 + 219/800,$   
 $(3*\exp(111/200)*\sin(629/1000))/2 + 111/400,$   
 $(3*\exp(9/16)*\sin(51/80))/2 + 9/32,$   
 $(3*\exp(57/100)*\sin(323/500))/2 + 57/200,$   
 $(3*\exp(231/400)*\sin(1309/2000))/2 + 231/800,$   
 $(3*\exp(117/200)*\sin(663/1000))/2 + 117/400,$   
 $(3*\exp(237/400)*\sin(1343/2000))/2 + 237/800,$   
 $(3*\exp(3/5)*\sin(17/25))/2 + 3/10,$   
 $(3*\exp(243/400)*\sin(1377/2000))/2 + 243/800,$   
 $(3*\exp(123/200)*\sin(697/1000))/2 + 123/400,$   
 $(3*\exp(249/400)*\sin(1411/2000))/2 + 249/800,$   
 $(3*\exp(63/100)*\sin(357/500))/2 + 63/200,$   
 $(3*\exp(51/80)*\sin(289/400))/2 + 51/160,$   
 $(3*\exp(129/200)*\sin(731/1000))/2 + 129/400,$   
 $(3*\exp(261/400)*\sin(1479/2000))/2 + 261/800,$   
 $(3*\exp(33/50)*\sin(187/250))/2 + 33/100,$   
 $(3*\exp(267/400)*\sin(1513/2000))/2 + 267/800,$   
 $(3*\exp(27/40)*\sin(153/200))/2 + 27/80,$   
 $(3*\exp(273/400)*\sin(1547/2000))/2 + 273/800,$   
 $(3*\exp(69/100)*\sin(391/500))/2 + 69/200,$   
 $(3*\exp(279/400)*\sin(1581/2000))/2 + 279/800,$   
 $(3*\exp(141/200)*\sin(799/1000))/2 + 141/400,$   
 $(3*\exp(57/80)*\sin(323/400))/2 + 57/160,$   
 $(3*\exp(18/25)*\sin(102/125))/2 + 9/25,$   
 $(3*\exp(291/400)*\sin(1649/2000))/2 + 291/800,$   
 $(3*\exp(147/200)*\sin(833/1000))/2 + 147/400,$   
 $(3*\exp(297/400)*\sin(1683/2000))/2 + 297/800,$   
 $(3*\exp(3/4)*\sin(17/20))/2 + 3/8,$   
 $(3*\exp(303/400)*\sin(1717/2000))/2 + 303/800,$   
 $(3*\exp(153/200)*\sin(867/1000))/2 + 153/400,$   
 $(3*\exp(309/400)*\sin(1751/2000))/2 + 309/800,$   
 $(3*\exp(39/50)*\sin(221/250))/2 + 39/100,$   
 $(3*\exp(63/80)*\sin(357/400))/2 + 63/160,$   
 $(3*\exp(159/200)*\sin(901/1000))/2 + 159/400,$   
 $(3*\exp(321/400)*\sin(1819/2000))/2 + 321/800,$   
 $(3*\exp(81/100)*\sin(459/500))/2 + 81/200,$   
 $(3*\exp(327/400)*\sin(1853/2000))/2 + 327/800,$   
 $(3*\exp(33/40)*\sin(187/200))/2 + 33/80,$   
 $(3*\exp(333/400)*\sin(1887/2000))/2 + 333/800,$   
 $(3*\exp(21/25)*\sin(119/125))/2 + 21/50,$   
 $(3*\exp(339/400)*\sin(1921/2000))/2 + 339/800,$   
 $(3*\exp(171/200)*\sin(969/1000))/2 + 171/400,$   
 $(3*\exp(69/80)*\sin(391/400))/2 + 69/160,$   
 $(3*\exp(87/100)*\sin(493/500))/2 + 87/200,$   
 $(3*\exp(351/400)*\sin(1989/2000))/2 + 351/800,$

$(3*\exp(177/200)*\sin(1003/1000))/2 + 177/400,$   
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 $(3*\exp(93/100)*\sin(527/500))/2 + 93/200,$   
 $(3*\exp(15/16)*\sin(17/16))/2 + 15/32,$   
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 $(3*\exp(39/40)*\sin(221/200))/2 + 39/80,$   
 $(3*\exp(393/400)*\sin(2227/2000))/2 + 393/800,$   
 $(3*\exp(99/100)*\sin(561/500))/2 + 99/200,$   
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 $(3*\exp(201/200)*\sin(1139/1000))/2 + 201/400,$   
 $(3*\exp(81/80)*\sin(459/400))/2 + 81/160,$   
 $(3*\exp(51/50)*\sin(289/250))/2 + 51/100,$   
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 $(3*\exp(231/200)*\sin(1309/1000))/2 + 231/400,$   
 $(3*\exp(93/80)*\sin(527/400))/2 + 93/160,$   
 $(3*\exp(117/100)*\sin(663/500))/2 + 117/200,$   
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 $(3*\exp(123/100)*\sin(697/500))/2 + 123/200,$

$(3*\exp(99/80)*\sin(561/400))/2 + 99/160,$   
 $(3*\exp(249/200)*\sin(1411/1000))/2 + 249/400,$   
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 $(3*\exp(63/50)*\sin(357/250))/2 + 63/100,$   
 $(3*\exp(507/400)*\sin(2873/2000))/2 + 507/800,$   
 $(3*\exp(51/40)*\sin(289/200))/2 + 51/80,$   
 $(3*\exp(513/400)*\sin(2907/2000))/2 + 513/800,$   
 $(3*\exp(129/100)*\sin(731/500))/2 + 129/200,$   
 $(3*\exp(519/400)*\sin(2941/2000))/2 + 519/800,$   
 $(3*\exp(261/200)*\sin(1479/1000))/2 + 261/400,$   
 $(3*\exp(21/16)*\sin(119/80))/2 + 21/32,$   
 $(3*\exp(33/25)*\sin(187/125))/2 + 33/50,$   
 $(3*\exp(531/400)*\sin(3009/2000))/2 + 531/800,$   
 $(3*\exp(267/200)*\sin(1513/1000))/2 + 267/400,$   
 $(3*\exp(537/400)*\sin(3043/2000))/2 + 537/800,$   
 $(3*\exp(27/20)*\sin(153/100))/2 + 27/40,$   
 $(3*\exp(543/400)*\sin(3077/2000))/2 + 543/800,$   
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 $(3*\exp(69/50)*\sin(391/250))/2 + 69/100,$   
 $(3*\exp(111/80)*\sin(629/400))/2 + 111/160,$   
 $(3*\exp(279/200)*\sin(1581/1000))/2 + 279/400,$   
 $(3*\exp(561/400)*\sin(3179/2000))/2 + 561/800,$   
 $(3*\exp(141/100)*\sin(799/500))/2 + 141/200,$   
 $(3*\exp(567/400)*\sin(3213/2000))/2 + 567/800,$   
 $(3*\exp(57/40)*\sin(323/200))/2 + 57/80,$   
 $(3*\exp(573/400)*\sin(3247/2000))/2 + 573/800,$   
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 $(3*\exp(579/400)*\sin(3281/2000))/2 + 579/800,$   
 $(3*\exp(291/200)*\sin(1649/1000))/2 + 291/400,$   
 $(3*\exp(117/80)*\sin(663/400))/2 + 117/160,$   
 $(3*\exp(147/100)*\sin(833/500))/2 + 147/200,$   
 $(3*\exp(591/400)*\sin(3349/2000))/2 + 591/800,$   
 $(3*\exp(297/200)*\sin(1683/1000))/2 + 297/400,$   
 $(3*\exp(597/400)*\sin(3383/2000))/2 + 597/800,$   
 $(3*\exp(3/2)*\sin(17/10))/2 + 3/4,$   
 $(3*\exp(603/400)*\sin(3417/2000))/2 + 603/800,$   
 $(3*\exp(303/200)*\sin(1717/1000))/2 + 303/400,$   
 $(3*\exp(609/400)*\sin(3451/2000))/2 + 609/800,$   
 $(3*\exp(153/100)*\sin(867/500))/2 + 153/200,$   
 $(3*\exp(123/80)*\sin(697/400))/2 + 123/160,$   
 $(3*\exp(309/200)*\sin(1751/1000))/2 + 309/400,$   
 $(3*\exp(621/400)*\sin(3519/2000))/2 + 621/800,$   
 $(3*\exp(39/25)*\sin(221/125))/2 + 39/50,$   
 $(3*\exp(627/400)*\sin(3553/2000))/2 + 627/800,$   
 $(3*\exp(63/40)*\sin(357/200))/2 + 63/80,$   
 $(3*\exp(633/400)*\sin(3587/2000))/2 + 633/800,$

$(3*\exp(159/100)*\sin(901/500))/2 + 159/200,$   
 $(3*\exp(639/400)*\sin(3621/2000))/2 + 639/800,$   
 $(3*\exp(321/200)*\sin(1819/1000))/2 + 321/400,$   
 $(3*\exp(129/80)*\sin(731/400))/2 + 129/160,$   
 $(3*\exp(81/50)*\sin(459/250))/2 + 81/100,$   
 $(3*\exp(651/400)*\sin(3689/2000))/2 + 651/800,$   
 $(3*\exp(327/200)*\sin(1853/1000))/2 + 327/400,$   
 $(3*\exp(657/400)*\sin(3723/2000))/2 + 657/800,$   
 $(3*\exp(33/20)*\sin(187/100))/2 + 33/40,$   
 $(3*\exp(663/400)*\sin(3757/2000))/2 + 663/800,$   
 $(3*\exp(333/200)*\sin(1887/1000))/2 + 333/400,$   
 $(3*\exp(669/400)*\sin(3791/2000))/2 + 669/800,$   
 $(3*\exp(42/25)*\sin(238/125))/2 + 21/25,$   
 $(3*\exp(27/16)*\sin(153/80))/2 + 27/32,$   
 $(3*\exp(339/200)*\sin(1921/1000))/2 + 339/400,$   
 $(3*\exp(681/400)*\sin(3859/2000))/2 + 681/800,$   
 $(3*\exp(171/100)*\sin(969/500))/2 + 171/200,$   
 $(3*\exp(687/400)*\sin(3893/2000))/2 + 687/800,$   
 $(3*\exp(69/40)*\sin(391/200))/2 + 69/80,$   
 $(3*\exp(693/400)*\sin(3927/2000))/2 + 693/800,$   
 $(3*\exp(87/50)*\sin(493/250))/2 + 87/100,$   
 $(3*\exp(699/400)*\sin(3961/2000))/2 + 699/800,$   
 $(3*\exp(351/200)*\sin(1989/1000))/2 + 351/400,$   
 $(3*\exp(141/80)*\sin(799/400))/2 + 141/160,$   
 $(3*\exp(177/100)*\sin(1003/500))/2 + 177/200,$   
 $(3*\exp(711/400)*\sin(4029/2000))/2 + 711/800,$   
 $(3*\exp(357/200)*\sin(2023/1000))/2 + 357/400,$   
 $(3*\exp(717/400)*\sin(4063/2000))/2 + 717/800,$   
 $(3*\exp(9/5)*\sin(51/25))/2 + 9/10,$   
 $(3*\exp(723/400)*\sin(4097/2000))/2 + 723/800,$   
 $(3*\exp(363/200)*\sin(2057/1000))/2 + 363/400,$   
 $(3*\exp(729/400)*\sin(4131/2000))/2 + 729/800,$   
 $(3*\exp(183/100)*\sin(1037/500))/2 + 183/200,$   
 $(3*\exp(147/80)*\sin(833/400))/2 + 147/160,$   
 $(3*\exp(369/200)*\sin(2091/1000))/2 + 369/400,$   
 $(3*\exp(741/400)*\sin(4199/2000))/2 + 741/800,$   
 $(3*\exp(93/50)*\sin(527/250))/2 + 93/100,$   
 $(3*\exp(747/400)*\sin(4233/2000))/2 + 747/800,$   
 $(3*\exp(15/8)*\sin(17/8))/2 + 15/16,$   
 $(3*\exp(753/400)*\sin(4267/2000))/2 + 753/800,$   
 $(3*\exp(189/100)*\sin(1071/500))/2 + 189/200,$   
 $(3*\exp(759/400)*\sin(4301/2000))/2 + 759/800,$   
 $(3*\exp(381/200)*\sin(2159/1000))/2 + 381/400,$   
 $(3*\exp(153/80)*\sin(867/400))/2 + 153/160,$   
 $(3*\exp(48/25)*\sin(272/125))/2 + 24/25,$   
 $(3*\exp(771/400)*\sin(4369/2000))/2 + 771/800,$   
 $(3*\exp(387/200)*\sin(2193/1000))/2 + 387/400,$

$(3*\exp(777/400)*\sin(4403/2000))/2 + 777/800,$   
 $(3*\exp(39/20)*\sin(221/100))/2 + 39/40,$   
 $(3*\exp(783/400)*\sin(4437/2000))/2 + 783/800,$   
 $(3*\exp(393/200)*\sin(2227/1000))/2 + 393/400,$   
 $(3*\exp(789/400)*\sin(4471/2000))/2 + 789/800,$   
 $(3*\exp(99/50)*\sin(561/250))/2 + 99/100,$   
 $(3*\exp(159/80)*\sin(901/400))/2 + 159/160,$   
 $(3*\exp(399/200)*\sin(2261/1000))/2 + 399/400,$   
 $(3*\exp(801/400)*\sin(4539/2000))/2 + 801/800,$   
 $(3*\exp(201/100)*\sin(1139/500))/2 + 201/200,$   
 $(3*\exp(807/400)*\sin(4573/2000))/2 + 807/800,$   
 $(3*\exp(81/40)*\sin(459/200))/2 + 81/80,$   
 $(3*\exp(813/400)*\sin(4607/2000))/2 + 813/800,$   
 $(3*\exp(51/25)*\sin(289/125))/2 + 51/50,$   
 $(3*\exp(819/400)*\sin(4641/2000))/2 + 819/800,$   
 $(3*\exp(411/200)*\sin(2329/1000))/2 + 411/400,$   
 $(3*\exp(33/16)*\sin(187/80))/2 + 33/32,$   
 $(3*\exp(207/100)*\sin(1173/500))/2 + 207/200,$   
 $(3*\exp(831/400)*\sin(4709/2000))/2 + 831/800,$   
 $(3*\exp(417/200)*\sin(2363/1000))/2 + 417/400,$   
 $(3*\exp(837/400)*\sin(4743/2000))/2 + 837/800,$   
 $(3*\exp(21/10)*\sin(119/50))/2 + 21/20,$   
 $(3*\exp(843/400)*\sin(4777/2000))/2 + 843/800,$   
 $(3*\exp(423/200)*\sin(2397/1000))/2 + 423/400,$   
 $(3*\exp(849/400)*\sin(4811/2000))/2 + 849/800,$   
 $(3*\exp(213/100)*\sin(1207/500))/2 + 213/200,$   
 $(3*\exp(171/80)*\sin(969/400))/2 + 171/160,$   
 $(3*\exp(429/200)*\sin(2431/1000))/2 + 429/400,$   
 $(3*\exp(861/400)*\sin(4879/2000))/2 + 861/800,$   
 $(3*\exp(54/25)*\sin(306/125))/2 + 27/25,$   
 $(3*\exp(867/400)*\sin(4913/2000))/2 + 867/800,$   
 $(3*\exp(87/40)*\sin(493/200))/2 + 87/80,$   
 $(3*\exp(873/400)*\sin(4947/2000))/2 + 873/800,$   
 $(3*\exp(219/100)*\sin(1241/500))/2 + 219/200,$   
 $(3*\exp(879/400)*\sin(4981/2000))/2 + 879/800,$   
 $(3*\exp(441/200)*\sin(2499/1000))/2 + 441/400,$   
 $(3*\exp(177/80)*\sin(1003/400))/2 + 177/160,$   
 $(3*\exp(111/50)*\sin(629/250))/2 + 111/100,$   
 $(3*\exp(891/400)*\sin(5049/2000))/2 + 891/800,$   
 $(3*\exp(447/200)*\sin(2533/1000))/2 + 447/400,$   
 $(3*\exp(897/400)*\sin(5083/2000))/2 + 897/800,$   
 $(3*\exp(9/4)*\sin(51/20))/2 + 9/8,$   
 $(3*\exp(903/400)*\sin(5117/2000))/2 + 903/800,$   
 $(3*\exp(453/200)*\sin(2567/1000))/2 + 453/400,$   
 $(3*\exp(909/400)*\sin(5151/2000))/2 + 909/800,$   
 $(3*\exp(57/25)*\sin(323/125))/2 + 57/50,$   
 $(3*\exp(183/80)*\sin(1037/400))/2 + 183/160,$

(3\*exp(459/200)\*sin(2601/1000))/2 + 459/400,  
(3\*exp(921/400)\*sin(5219/2000))/2 + 921/800,  
(3\*exp(231/100)\*sin(1309/500))/2 + 231/200,  
(3\*exp(927/400)\*sin(5253/2000))/2 + 927/800,  
(3\*exp(93/40)\*sin(527/200))/2 + 93/80,  
(3\*exp(933/400)\*sin(5287/2000))/2 + 933/800,  
(3\*exp(117/50)\*sin(663/250))/2 + 117/100,  
(3\*exp(939/400)\*sin(5321/2000))/2 + 939/800,  
(3\*exp(471/200)\*sin(2669/1000))/2 + 471/400,  
(3\*exp(189/80)\*sin(1071/400))/2 + 189/160,  
(3\*exp(237/100)\*sin(1343/500))/2 + 237/200,  
(3\*exp(951/400)\*sin(5389/2000))/2 + 951/800,  
(3\*exp(477/200)\*sin(2703/1000))/2 + 477/400,  
(3\*exp(957/400)\*sin(5423/2000))/2 + 957/800,  
(3\*exp(12/5)\*sin(68/25))/2 + 6/5,  
(3\*exp(963/400)\*sin(5457/2000))/2 + 963/800,  
(3\*exp(483/200)\*sin(2737/1000))/2 + 483/400,  
(3\*exp(969/400)\*sin(5491/2000))/2 + 969/800,  
(3\*exp(243/100)\*sin(1377/500))/2 + 243/200,  
(3\*exp(39/16)\*sin(221/80))/2 + 39/32,  
(3\*exp(489/200)\*sin(2771/1000))/2 + 489/400,  
(3\*exp(981/400)\*sin(5559/2000))/2 + 981/800,  
(3\*exp(123/50)\*sin(697/250))/2 + 123/100,  
(3\*exp(987/400)\*sin(5593/2000))/2 + 987/800,  
(3\*exp(99/40)\*sin(561/200))/2 + 99/80,  
(3\*exp(993/400)\*sin(5627/2000))/2 + 993/800,  
(3\*exp(249/100)\*sin(1411/500))/2 + 249/200,  
(3\*exp(999/400)\*sin(5661/2000))/2 + 999/800,  
(3\*exp(501/200)\*sin(2839/1000))/2 + 501/400,  
(3\*exp(201/80)\*sin(1139/400))/2 + 201/160,  
(3\*exp(63/25)\*sin(357/125))/2 + 63/50,  
(3\*exp(1011/400)\*sin(5729/2000))/2 + 1011/800,  
(3\*exp(507/200)\*sin(2873/1000))/2 + 507/400,  
(3\*exp(1017/400)\*sin(5763/2000))/2 + 1017/800,  
(3\*exp(51/20)\*sin(289/100))/2 + 51/40,  
(3\*exp(1023/400)\*sin(5797/2000))/2 + 1023/800,  
(3\*exp(513/200)\*sin(2907/1000))/2 + 513/400,  
(3\*exp(1029/400)\*sin(5831/2000))/2 + 1029/800,  
(3\*exp(129/50)\*sin(731/250))/2 + 129/100,  
(3\*exp(207/80)\*sin(1173/400))/2 + 207/160,  
(3\*exp(519/200)\*sin(2941/1000))/2 + 519/400,  
(3\*exp(1041/400)\*sin(5899/2000))/2 + 1041/800,  
(3\*exp(261/100)\*sin(1479/500))/2 + 261/200,  
(3\*exp(1047/400)\*sin(5933/2000))/2 + 1047/800,  
(3\*exp(21/8)\*sin(119/40))/2 + 21/16]

dd =

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

ddn =

$$\begin{aligned} & [ 0, (3*\exp(3/400)*\sin(17/2000))/2 + 3/800, \\ & (3*\exp(3/200)*\sin(17/1000))/2 + 3/400, \\ & (3*\exp(9/400)*\sin(51/2000))/2 + 9/800, \\ & (3*\exp(3/100)*\sin(17/500))/2 + 3/200, \\ & (3*\exp(3/80)*\sin(17/400))/2 + 3/160, \\ & (3*\exp(9/200)*\sin(51/1000))/2 + 9/400, \\ & (3*\exp(21/400)*\sin(119/2000))/2 + 21/800, \\ & (3*\exp(3/50)*\sin(17/250))/2 + 3/100, \\ & (3*\exp(27/400)*\sin(153/2000))/2 + 27/800, \\ & (3*\exp(3/40)*\sin(17/200))/2 + 3/80, \\ & (3*\exp(33/400)*\sin(187/2000))/2 + 33/800, \\ & (3*\exp(9/100)*\sin(51/500))/2 + 9/200, \\ & (3*\exp(39/400)*\sin(221/2000))/2 + 39/800, \\ & (3*\exp(21/200)*\sin(119/1000))/2 + 21/400, \\ & (3*\exp(9/80)*\sin(51/400))/2 + 9/160, (3*\exp(3/25)*\sin(17/125))/2 \\ & + 3/50, (3*\exp(51/400)*\sin(289/2000))/2 + 51/800, \\ & (3*\exp(27/200)*\sin(153/1000))/2 + 27/400, \\ & (3*\exp(57/400)*\sin(323/2000))/2 + 57/800, \\ & (3*\exp(3/20)*\sin(17/100))/2 + 3/40, \\ & (3*\exp(63/400)*\sin(357/2000))/2 + 63/800, \\ & (3*\exp(33/200)*\sin(187/1000))/2 + 33/400, \\ & (3*\exp(69/400)*\sin(391/2000))/2 + 69/800, \\ & (3*\exp(9/50)*\sin(51/250))/2 + 9/100, (3*\exp(3/16)*\sin(17/80))/2 \\ & + 3/32, (3*\exp(39/200)*\sin(221/1000))/2 + 39/400, \\ & (3*\exp(81/400)*\sin(459/2000))/2 + 81/800, \\ & (3*\exp(21/100)*\sin(119/500))/2 + 21/200, \\ & (3*\exp(87/400)*\sin(493/2000))/2 + 87/800, \\ & (3*\exp(9/40)*\sin(51/200))/2 + 9/80, \\ & (3*\exp(93/400)*\sin(527/2000))/2 + 93/800, \\ & (3*\exp(6/25)*\sin(34/125))/2 + 3/25, \\ & (3*\exp(99/400)*\sin(561/2000))/2 + 99/800, \\ & (3*\exp(51/200)*\sin(289/1000))/2 + 51/400, \\ & (3*\exp(21/80)*\sin(119/400))/2 + 21/160, \\ & (3*\exp(27/100)*\sin(153/500))/2 + 27/200, \\ & (3*\exp(111/400)*\sin(629/2000))/2 + 111/800, \\ & (3*\exp(57/200)*\sin(323/1000))/2 + 57/400, \\ & (3*\exp(117/400)*\sin(663/2000))/2 + 117/800, \\ & (3*\exp(3/10)*\sin(17/50))/2 + 3/20, \\ & (3*\exp(123/400)*\sin(697/2000))/2 + 123/800, \end{aligned}$$

$(3*\exp(63/200)*\sin(357/1000))/2 + 63/400,$   
 $(3*\exp(129/400)*\sin(731/2000))/2 + 129/800,$   
 $(3*\exp(33/100)*\sin(187/500))/2 + 33/200,$   
 $(3*\exp(27/80)*\sin(153/400))/2 + 27/160,$   
 $(3*\exp(69/200)*\sin(391/1000))/2 + 69/400,$   
 $(3*\exp(141/400)*\sin(799/2000))/2 + 141/800,$   
 $(3*\exp(9/25)*\sin(51/125))/2 + 9/50,$   
 $(3*\exp(147/400)*\sin(833/2000))/2 + 147/800,$   
 $(3*\exp(3/8)*\sin(17/40))/2 + 3/16,$   
 $(3*\exp(153/400)*\sin(867/2000))/2 + 153/800,$   
 $(3*\exp(39/100)*\sin(221/500))/2 + 39/200,$   
 $(3*\exp(159/400)*\sin(901/2000))/2 + 159/800,$   
 $(3*\exp(81/200)*\sin(459/1000))/2 + 81/400,$   
 $(3*\exp(33/80)*\sin(187/400))/2 + 33/160,$   
 $(3*\exp(21/50)*\sin(119/250))/2 + 21/100,$   
 $(3*\exp(171/400)*\sin(969/2000))/2 + 171/800,$   
 $(3*\exp(87/200)*\sin(493/1000))/2 + 87/400,$   
 $(3*\exp(177/400)*\sin(1003/2000))/2 + 177/800,$   
 $(3*\exp(9/20)*\sin(51/100))/2 + 9/40,$   
 $(3*\exp(183/400)*\sin(1037/2000))/2 + 183/800,$   
 $(3*\exp(93/200)*\sin(527/1000))/2 + 93/400,$   
 $(3*\exp(189/400)*\sin(1071/2000))/2 + 189/800,$   
 $(3*\exp(12/25)*\sin(68/125))/2 + 6/25,$   
 $(3*\exp(39/80)*\sin(221/400))/2 + 39/160,$   
 $(3*\exp(99/200)*\sin(561/1000))/2 + 99/400,$   
 $(3*\exp(201/400)*\sin(1139/2000))/2 + 201/800,$   
 $(3*\exp(51/100)*\sin(289/500))/2 + 51/200,$   
 $(3*\exp(207/400)*\sin(1173/2000))/2 + 207/800,$   
 $(3*\exp(21/40)*\sin(119/200))/2 + 21/80,$   
 $(3*\exp(213/400)*\sin(1207/2000))/2 + 213/800,$   
 $(3*\exp(27/50)*\sin(153/250))/2 + 27/100,$   
 $(3*\exp(219/400)*\sin(1241/2000))/2 + 219/800,$   
 $(3*\exp(111/200)*\sin(629/1000))/2 + 111/400,$   
 $(3*\exp(9/16)*\sin(51/80))/2 + 9/32,$   
 $(3*\exp(57/100)*\sin(323/500))/2 + 57/200,$   
 $(3*\exp(231/400)*\sin(1309/2000))/2 + 231/800,$   
 $(3*\exp(117/200)*\sin(663/1000))/2 + 117/400,$   
 $(3*\exp(237/400)*\sin(1343/2000))/2 + 237/800,$   
 $(3*\exp(3/5)*\sin(17/25))/2 + 3/10,$   
 $(3*\exp(243/400)*\sin(1377/2000))/2 + 243/800,$   
 $(3*\exp(123/200)*\sin(697/1000))/2 + 123/400,$   
 $(3*\exp(249/400)*\sin(1411/2000))/2 + 249/800,$   
 $(3*\exp(63/100)*\sin(357/500))/2 + 63/200,$   
 $(3*\exp(51/80)*\sin(289/400))/2 + 51/160,$   
 $(3*\exp(129/200)*\sin(731/1000))/2 + 129/400,$   
 $(3*\exp(261/400)*\sin(1479/2000))/2 + 261/800,$   
 $(3*\exp(33/50)*\sin(187/250))/2 + 33/100,$



$(3*\exp(267/400)*\sin(1513/2000))/2 + 267/800,$   
 $(3*\exp(27/40)*\sin(153/200))/2 + 27/80,$   
 $(3*\exp(273/400)*\sin(1547/2000))/2 + 273/800,$   
 $(3*\exp(69/100)*\sin(391/500))/2 + 69/200,$   
 $(3*\exp(279/400)*\sin(1581/2000))/2 + 279/800,$   
 $(3*\exp(141/200)*\sin(799/1000))/2 + 141/400,$   
 $(3*\exp(57/80)*\sin(323/400))/2 + 57/160,$   
 $(3*\exp(18/25)*\sin(102/125))/2 + 9/25,$   
 $(3*\exp(291/400)*\sin(1649/2000))/2 + 291/800,$   
 $(3*\exp(147/200)*\sin(833/1000))/2 + 147/400,$   
 $(3*\exp(297/400)*\sin(1683/2000))/2 + 297/800,$   
 $(3*\exp(3/4)*\sin(17/20))/2 + 3/8,$   
 $(3*\exp(303/400)*\sin(1717/2000))/2 + 303/800,$   
 $(3*\exp(153/200)*\sin(867/1000))/2 + 153/400,$   
 $(3*\exp(309/400)*\sin(1751/2000))/2 + 309/800,$   
 $(3*\exp(39/50)*\sin(221/250))/2 + 39/100,$   
 $(3*\exp(63/80)*\sin(357/400))/2 + 63/160,$   
 $(3*\exp(159/200)*\sin(901/1000))/2 + 159/400,$   
 $(3*\exp(321/400)*\sin(1819/2000))/2 + 321/800,$   
 $(3*\exp(81/100)*\sin(459/500))/2 + 81/200,$   
 $(3*\exp(327/400)*\sin(1853/2000))/2 + 327/800,$   
 $(3*\exp(33/40)*\sin(187/200))/2 + 33/80,$   
 $(3*\exp(333/400)*\sin(1887/2000))/2 + 333/800,$   
 $(3*\exp(21/25)*\sin(119/125))/2 + 21/50,$   
 $(3*\exp(339/400)*\sin(1921/2000))/2 + 339/800,$   
 $(3*\exp(171/200)*\sin(969/1000))/2 + 171/400,$   
 $(3*\exp(69/80)*\sin(391/400))/2 + 69/160,$   
 $(3*\exp(87/100)*\sin(493/500))/2 + 87/200,$   
 $(3*\exp(351/400)*\sin(1989/2000))/2 + 351/800,$   
 $(3*\exp(177/200)*\sin(1003/1000))/2 + 177/400,$   
 $(3*\exp(357/400)*\sin(2023/2000))/2 + 357/800,$   
 $(3*\exp(9/10)*\sin(51/50))/2 + 9/20,$   
 $(3*\exp(363/400)*\sin(2057/2000))/2 + 363/800,$   
 $(3*\exp(183/200)*\sin(1037/1000))/2 + 183/400,$   
 $(3*\exp(369/400)*\sin(2091/2000))/2 + 369/800,$   
 $(3*\exp(93/100)*\sin(527/500))/2 + 93/200,$   
 $(3*\exp(15/16)*\sin(17/16))/2 + 15/32,$   
 $(3*\exp(189/200)*\sin(1071/1000))/2 + 189/400,$   
 $(3*\exp(381/400)*\sin(2159/2000))/2 + 381/800,$   
 $(3*\exp(24/25)*\sin(136/125))/2 + 12/25,$   
 $(3*\exp(387/400)*\sin(2193/2000))/2 + 387/800,$   
 $(3*\exp(39/40)*\sin(221/200))/2 + 39/80,$   
 $(3*\exp(393/400)*\sin(2227/2000))/2 + 393/800,$   
 $(3*\exp(99/100)*\sin(561/500))/2 + 99/200,$   
 $(3*\exp(399/400)*\sin(2261/2000))/2 + 399/800,$   
 $(3*\exp(201/200)*\sin(1139/1000))/2 + 201/400,$   
 $(3*\exp(81/80)*\sin(459/400))/2 + 81/160,$

$(3*\exp(51/50)*\sin(289/250))/2 + 51/100,$   
 $(3*\exp(411/400)*\sin(2329/2000))/2 + 411/800,$   
 $(3*\exp(207/200)*\sin(1173/1000))/2 + 207/400,$   
 $(3*\exp(417/400)*\sin(2363/2000))/2 + 417/800,$   
 $(3*\exp(21/20)*\sin(119/100))/2 + 21/40,$   
 $(3*\exp(423/400)*\sin(2397/2000))/2 + 423/800,$   
 $(3*\exp(213/200)*\sin(1207/1000))/2 + 213/400,$   
 $(3*\exp(429/400)*\sin(2431/2000))/2 + 429/800,$   
 $(3*\exp(27/25)*\sin(153/125))/2 + 27/50,$   
 $(3*\exp(87/80)*\sin(493/400))/2 + 87/160,$   
 $(3*\exp(219/200)*\sin(1241/1000))/2 + 219/400,$   
 $(3*\exp(441/400)*\sin(2499/2000))/2 + 441/800,$   
 $(3*\exp(111/100)*\sin(629/500))/2 + 111/200,$   
 $(3*\exp(447/400)*\sin(2533/2000))/2 + 447/800,$   
 $(3*\exp(9/8)*\sin(51/40))/2 + 9/16,$   
 $(3*\exp(453/400)*\sin(2567/2000))/2 + 453/800,$   
 $(3*\exp(57/50)*\sin(323/250))/2 + 57/100,$   
 $(3*\exp(459/400)*\sin(2601/2000))/2 + 459/800,$   
 $(3*\exp(231/200)*\sin(1309/1000))/2 + 231/400,$   
 $(3*\exp(93/80)*\sin(527/400))/2 + 93/160,$   
 $(3*\exp(117/100)*\sin(663/500))/2 + 117/200,$   
 $(3*\exp(471/400)*\sin(2669/2000))/2 + 471/800,$   
 $(3*\exp(237/200)*\sin(1343/1000))/2 + 237/400,$   
 $(3*\exp(477/400)*\sin(2703/2000))/2 + 477/800,$   
 $(3*\exp(6/5)*\sin(34/25))/2 + 3/5,$   
 $(3*\exp(483/400)*\sin(2737/2000))/2 + 483/800,$   
 $(3*\exp(243/200)*\sin(1377/1000))/2 + 243/400,$   
 $(3*\exp(489/400)*\sin(2771/2000))/2 + 489/800,$   
 $(3*\exp(123/100)*\sin(697/500))/2 + 123/200,$   
 $(3*\exp(99/80)*\sin(561/400))/2 + 99/160,$   
 $(3*\exp(249/200)*\sin(1411/1000))/2 + 249/400,$   
 $(3*\exp(501/400)*\sin(2839/2000))/2 + 501/800,$   
 $(3*\exp(63/50)*\sin(357/250))/2 + 63/100,$   
 $(3*\exp(507/400)*\sin(2873/2000))/2 + 507/800,$   
 $(3*\exp(51/40)*\sin(289/200))/2 + 51/80,$   
 $(3*\exp(513/400)*\sin(2907/2000))/2 + 513/800,$   
 $(3*\exp(129/100)*\sin(731/500))/2 + 129/200,$   
 $(3*\exp(519/400)*\sin(2941/2000))/2 + 519/800,$   
 $(3*\exp(261/200)*\sin(1479/1000))/2 + 261/400,$   
 $(3*\exp(21/16)*\sin(119/80))/2 + 21/32,$   
 $(3*\exp(33/25)*\sin(187/125))/2 + 33/50,$   
 $(3*\exp(531/400)*\sin(3009/2000))/2 + 531/800,$   
 $(3*\exp(267/200)*\sin(1513/1000))/2 + 267/400,$   
 $(3*\exp(537/400)*\sin(3043/2000))/2 + 537/800,$   
 $(3*\exp(27/20)*\sin(153/100))/2 + 27/40,$   
 $(3*\exp(543/400)*\sin(3077/2000))/2 + 543/800,$   
 $(3*\exp(273/200)*\sin(1547/1000))/2 + 273/400,$

$(3*\exp(549/400)*\sin(3111/2000))/2 + 549/800,$   
 $(3*\exp(69/50)*\sin(391/250))/2 + 69/100,$   
 $(3*\exp(111/80)*\sin(629/400))/2 + 111/160,$   
 $(3*\exp(279/200)*\sin(1581/1000))/2 + 279/400,$   
 $(3*\exp(561/400)*\sin(3179/2000))/2 + 561/800,$   
 $(3*\exp(141/100)*\sin(799/500))/2 + 141/200,$   
 $(3*\exp(567/400)*\sin(3213/2000))/2 + 567/800,$   
 $(3*\exp(57/40)*\sin(323/200))/2 + 57/80,$   
 $(3*\exp(573/400)*\sin(3247/2000))/2 + 573/800,$   
 $(3*\exp(36/25)*\sin(204/125))/2 + 18/25,$   
 $(3*\exp(579/400)*\sin(3281/2000))/2 + 579/800,$   
 $(3*\exp(291/200)*\sin(1649/1000))/2 + 291/400,$   
 $(3*\exp(117/80)*\sin(663/400))/2 + 117/160,$   
 $(3*\exp(147/100)*\sin(833/500))/2 + 147/200,$   
 $(3*\exp(591/400)*\sin(3349/2000))/2 + 591/800,$   
 $(3*\exp(297/200)*\sin(1683/1000))/2 + 297/400,$   
 $(3*\exp(597/400)*\sin(3383/2000))/2 + 597/800,$   
 $(3*\exp(3/2)*\sin(17/10))/2 + 3/4,$   
 $(3*\exp(603/400)*\sin(3417/2000))/2 + 603/800,$   
 $(3*\exp(303/200)*\sin(1717/1000))/2 + 303/400,$   
 $(3*\exp(609/400)*\sin(3451/2000))/2 + 609/800,$   
 $(3*\exp(153/100)*\sin(867/500))/2 + 153/200,$   
 $(3*\exp(123/80)*\sin(697/400))/2 + 123/160,$   
 $(3*\exp(309/200)*\sin(1751/1000))/2 + 309/400,$   
 $(3*\exp(621/400)*\sin(3519/2000))/2 + 621/800,$   
 $(3*\exp(39/25)*\sin(221/125))/2 + 39/50,$   
 $(3*\exp(627/400)*\sin(3553/2000))/2 + 627/800,$   
 $(3*\exp(63/40)*\sin(357/200))/2 + 63/80,$   
 $(3*\exp(633/400)*\sin(3587/2000))/2 + 633/800,$   
 $(3*\exp(159/100)*\sin(901/500))/2 + 159/200,$   
 $(3*\exp(639/400)*\sin(3621/2000))/2 + 639/800,$   
 $(3*\exp(321/200)*\sin(1819/1000))/2 + 321/400,$   
 $(3*\exp(129/80)*\sin(731/400))/2 + 129/160,$   
 $(3*\exp(81/50)*\sin(459/250))/2 + 81/100,$   
 $(3*\exp(651/400)*\sin(3689/2000))/2 + 651/800,$   
 $(3*\exp(327/200)*\sin(1853/1000))/2 + 327/400,$   
 $(3*\exp(657/400)*\sin(3723/2000))/2 + 657/800,$   
 $(3*\exp(33/20)*\sin(187/100))/2 + 33/40,$   
 $(3*\exp(663/400)*\sin(3757/2000))/2 + 663/800,$   
 $(3*\exp(333/200)*\sin(1887/1000))/2 + 333/400,$   
 $(3*\exp(669/400)*\sin(3791/2000))/2 + 669/800,$   
 $(3*\exp(42/25)*\sin(238/125))/2 + 21/25,$   
 $(3*\exp(27/16)*\sin(153/80))/2 + 27/32,$   
 $(3*\exp(339/200)*\sin(1921/1000))/2 + 339/400,$   
 $(3*\exp(681/400)*\sin(3859/2000))/2 + 681/800,$   
 $(3*\exp(171/100)*\sin(969/500))/2 + 171/200,$   
 $(3*\exp(687/400)*\sin(3893/2000))/2 + 687/800,$

$(3*\exp(69/40)*\sin(391/200))/2 + 69/80,$   
 $(3*\exp(693/400)*\sin(3927/2000))/2 + 693/800,$   
 $(3*\exp(87/50)*\sin(493/250))/2 + 87/100,$   
 $(3*\exp(699/400)*\sin(3961/2000))/2 + 699/800,$   
 $(3*\exp(351/200)*\sin(1989/1000))/2 + 351/400,$   
 $(3*\exp(141/80)*\sin(799/400))/2 + 141/160,$   
 $(3*\exp(177/100)*\sin(1003/500))/2 + 177/200,$   
 $(3*\exp(711/400)*\sin(4029/2000))/2 + 711/800,$   
 $(3*\exp(357/200)*\sin(2023/1000))/2 + 357/400,$   
 $(3*\exp(717/400)*\sin(4063/2000))/2 + 717/800,$   
 $(3*\exp(9/5)*\sin(51/25))/2 + 9/10,$   
 $(3*\exp(723/400)*\sin(4097/2000))/2 + 723/800,$   
 $(3*\exp(363/200)*\sin(2057/1000))/2 + 363/400,$   
 $(3*\exp(729/400)*\sin(4131/2000))/2 + 729/800,$   
 $(3*\exp(183/100)*\sin(1037/500))/2 + 183/200,$   
 $(3*\exp(147/80)*\sin(833/400))/2 + 147/160,$   
 $(3*\exp(369/200)*\sin(2091/1000))/2 + 369/400,$   
 $(3*\exp(741/400)*\sin(4199/2000))/2 + 741/800,$   
 $(3*\exp(93/50)*\sin(527/250))/2 + 93/100,$   
 $(3*\exp(747/400)*\sin(4233/2000))/2 + 747/800,$   
 $(3*\exp(15/8)*\sin(17/8))/2 + 15/16,$   
 $(3*\exp(753/400)*\sin(4267/2000))/2 + 753/800,$   
 $(3*\exp(189/100)*\sin(1071/500))/2 + 189/200,$   
 $(3*\exp(759/400)*\sin(4301/2000))/2 + 759/800,$   
 $(3*\exp(381/200)*\sin(2159/1000))/2 + 381/400,$   
 $(3*\exp(153/80)*\sin(867/400))/2 + 153/160,$   
 $(3*\exp(48/25)*\sin(272/125))/2 + 24/25,$   
 $(3*\exp(771/400)*\sin(4369/2000))/2 + 771/800,$   
 $(3*\exp(387/200)*\sin(2193/1000))/2 + 387/400,$   
 $(3*\exp(777/400)*\sin(4403/2000))/2 + 777/800,$   
 $(3*\exp(39/20)*\sin(221/100))/2 + 39/40,$   
 $(3*\exp(783/400)*\sin(4437/2000))/2 + 783/800,$   
 $(3*\exp(393/200)*\sin(2227/1000))/2 + 393/400,$   
 $(3*\exp(789/400)*\sin(4471/2000))/2 + 789/800,$   
 $(3*\exp(99/50)*\sin(561/250))/2 + 99/100,$   
 $(3*\exp(159/80)*\sin(901/400))/2 + 159/160,$   
 $(3*\exp(399/200)*\sin(2261/1000))/2 + 399/400,$   
 $(3*\exp(801/400)*\sin(4539/2000))/2 + 801/800,$   
 $(3*\exp(201/100)*\sin(1139/500))/2 + 201/200,$   
 $(3*\exp(807/400)*\sin(4573/2000))/2 + 807/800,$   
 $(3*\exp(81/40)*\sin(459/200))/2 + 81/80,$   
 $(3*\exp(813/400)*\sin(4607/2000))/2 + 813/800,$   
 $(3*\exp(51/25)*\sin(289/125))/2 + 51/50,$   
 $(3*\exp(819/400)*\sin(4641/2000))/2 + 819/800,$   
 $(3*\exp(411/200)*\sin(2329/1000))/2 + 411/400,$   
 $(3*\exp(33/16)*\sin(187/80))/2 + 33/32,$   
 $(3*\exp(207/100)*\sin(1173/500))/2 + 207/200,$

$(3*\exp(831/400)*\sin(4709/2000))/2 + 831/800,$   
 $(3*\exp(417/200)*\sin(2363/1000))/2 + 417/400,$   
 $(3*\exp(837/400)*\sin(4743/2000))/2 + 837/800,$   
 $(3*\exp(21/10)*\sin(119/50))/2 + 21/20,$   
 $(3*\exp(843/400)*\sin(4777/2000))/2 + 843/800,$   
 $(3*\exp(423/200)*\sin(2397/1000))/2 + 423/400,$   
 $(3*\exp(849/400)*\sin(4811/2000))/2 + 849/800,$   
 $(3*\exp(213/100)*\sin(1207/500))/2 + 213/200,$   
 $(3*\exp(171/80)*\sin(969/400))/2 + 171/160,$   
 $(3*\exp(429/200)*\sin(2431/1000))/2 + 429/400,$   
 $(3*\exp(861/400)*\sin(4879/2000))/2 + 861/800,$   
 $(3*\exp(54/25)*\sin(306/125))/2 + 27/25,$   
 $(3*\exp(867/400)*\sin(4913/2000))/2 + 867/800,$   
 $(3*\exp(87/40)*\sin(493/200))/2 + 87/80,$   
 $(3*\exp(873/400)*\sin(4947/2000))/2 + 873/800,$   
 $(3*\exp(219/100)*\sin(1241/500))/2 + 219/200,$   
 $(3*\exp(879/400)*\sin(4981/2000))/2 + 879/800,$   
 $(3*\exp(441/200)*\sin(2499/1000))/2 + 441/400,$   
 $(3*\exp(177/80)*\sin(1003/400))/2 + 177/160,$   
 $(3*\exp(111/50)*\sin(629/250))/2 + 111/100,$   
 $(3*\exp(891/400)*\sin(5049/2000))/2 + 891/800,$   
 $(3*\exp(447/200)*\sin(2533/1000))/2 + 447/400,$   
 $(3*\exp(897/400)*\sin(5083/2000))/2 + 897/800,$   
 $(3*\exp(9/4)*\sin(51/20))/2 + 9/8,$   
 $(3*\exp(903/400)*\sin(5117/2000))/2 + 903/800,$   
 $(3*\exp(453/200)*\sin(2567/1000))/2 + 453/400,$   
 $(3*\exp(909/400)*\sin(5151/2000))/2 + 909/800,$   
 $(3*\exp(57/25)*\sin(323/125))/2 + 57/50,$   
 $(3*\exp(183/80)*\sin(1037/400))/2 + 183/160,$   
 $(3*\exp(459/200)*\sin(2601/1000))/2 + 459/400,$   
 $(3*\exp(921/400)*\sin(5219/2000))/2 + 921/800,$   
 $(3*\exp(231/100)*\sin(1309/500))/2 + 231/200,$   
 $(3*\exp(927/400)*\sin(5253/2000))/2 + 927/800,$   
 $(3*\exp(93/40)*\sin(527/200))/2 + 93/80,$   
 $(3*\exp(933/400)*\sin(5287/2000))/2 + 933/800,$   
 $(3*\exp(117/50)*\sin(663/250))/2 + 117/100,$   
 $(3*\exp(939/400)*\sin(5321/2000))/2 + 939/800,$   
 $(3*\exp(471/200)*\sin(2669/1000))/2 + 471/400,$   
 $(3*\exp(189/80)*\sin(1071/400))/2 + 189/160,$   
 $(3*\exp(237/100)*\sin(1343/500))/2 + 237/200,$   
 $(3*\exp(951/400)*\sin(5389/2000))/2 + 951/800,$   
 $(3*\exp(477/200)*\sin(2703/1000))/2 + 477/400,$   
 $(3*\exp(957/400)*\sin(5423/2000))/2 + 957/800,$   
 $(3*\exp(12/5)*\sin(68/25))/2 + 6/5,$   
 $(3*\exp(963/400)*\sin(5457/2000))/2 + 963/800,$   
 $(3*\exp(483/200)*\sin(2737/1000))/2 + 483/400,$   
 $(3*\exp(969/400)*\sin(5491/2000))/2 + 969/800,$

$(3*\exp(243/100)*\sin(1377/500))/2 + 243/200,$   
 $(3*\exp(39/16)*\sin(221/80))/2 + 39/32,$   
 $(3*\exp(489/200)*\sin(2771/1000))/2 + 489/400,$   
 $(3*\exp(981/400)*\sin(5559/2000))/2 + 981/800,$   
 $(3*\exp(123/50)*\sin(697/250))/2 + 123/100,$   
 $(3*\exp(987/400)*\sin(5593/2000))/2 + 987/800,$   
 $(3*\exp(99/40)*\sin(561/200))/2 + 99/80,$   
 $(3*\exp(993/400)*\sin(5627/2000))/2 + 993/800,$   
 $(3*\exp(249/100)*\sin(1411/500))/2 + 249/200,$   
 $(3*\exp(999/400)*\sin(5661/2000))/2 + 999/800,$   
 $(3*\exp(501/200)*\sin(2839/1000))/2 + 501/400,$   
 $(3*\exp(201/80)*\sin(1139/400))/2 + 201/160,$   
 $(3*\exp(63/25)*\sin(357/125))/2 + 63/50,$   
 $(3*\exp(1011/400)*\sin(5729/2000))/2 + 1011/800,$   
 $(3*\exp(507/200)*\sin(2873/1000))/2 + 507/400,$   
 $(3*\exp(1017/400)*\sin(5763/2000))/2 + 1017/800,$   
 $(3*\exp(51/20)*\sin(289/100))/2 + 51/40,$   
 $(3*\exp(1023/400)*\sin(5797/2000))/2 + 1023/800,$   
 $(3*\exp(513/200)*\sin(2907/1000))/2 + 513/400,$   
 $(3*\exp(1029/400)*\sin(5831/2000))/2 + 1029/800,$   
 $(3*\exp(129/50)*\sin(731/250))/2 + 129/100,$   
 $(3*\exp(207/80)*\sin(1173/400))/2 + 207/160,$   
 $(3*\exp(519/200)*\sin(2941/1000))/2 + 519/400,$   
 $(3*\exp(1041/400)*\sin(5899/2000))/2 + 1041/800,$   
 $(3*\exp(261/100)*\sin(1479/500))/2 + 261/200,$   
 $(3*\exp(1047/400)*\sin(5933/2000))/2 + 1047/800,$   
 $(3*\exp(21/8)*\sin(119/40))/2 + 21/16]$

ddd =

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

dddn =

$[ 153/80, (153*\cos(17/2000)*\exp(3/400))/80 -$   
 $(6*\exp(3/400)*\sin(17/2000))/25, (153*\cos(17/1000)*\exp(3/200))/80$   
 $- (6*\exp(3/200)*\sin(17/1000))/25,$   
 $(153*\cos(51/2000)*\exp(9/400))/80 -$   
 $(6*\exp(9/400)*\sin(51/2000))/25, (153*\cos(17/500)*\exp(3/100))/80$   
 $- (6*\exp(3/100)*\sin(17/500))/25, (153*\cos(17/400)*\exp(3/80))/80$   
 $- (6*\exp(3/80)*\sin(17/400))/25, (153*\cos(51/1000)*\exp(9/200))/80$   
 $- (6*\exp(9/200)*\sin(51/1000))/25,$   
 $(153*\cos(119/2000)*\exp(21/400))/80 -$   
 $(6*\exp(21/400)*\sin(119/2000))/25, (153*\cos(17/250)*\exp(3/50))/80$

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

$(6*\exp(111/400)*\sin(629/2000))/25,$   
 $(153*\cos(323/1000)*\exp(57/200))/80 -$   
 $(6*\exp(57/200)*\sin(323/1000))/25,$   
 $(153*\cos(663/2000)*\exp(117/400))/80 -$   
 $(6*\exp(117/400)*\sin(663/2000))/25, (153*\cos(17/50)*\exp(3/10))/80$   
 $- (6*\exp(3/10)*\sin(17/50))/25,$   
 $(153*\cos(697/2000)*\exp(123/400))/80 -$   
 $(6*\exp(123/400)*\sin(697/2000))/25,$   
 $(153*\cos(357/1000)*\exp(63/200))/80 -$   
 $(6*\exp(63/200)*\sin(357/1000))/25,$   
 $(153*\cos(731/2000)*\exp(129/400))/80 -$   
 $(6*\exp(129/400)*\sin(731/2000))/25,$   
 $(153*\cos(187/500)*\exp(33/100))/80 -$   
 $(6*\exp(33/100)*\sin(187/500))/25,$   
 $(153*\cos(153/400)*\exp(27/80))/80 -$   
 $(6*\exp(27/80)*\sin(153/400))/25,$   
 $(153*\cos(391/1000)*\exp(69/200))/80 -$   
 $(6*\exp(69/200)*\sin(391/1000))/25,$   
 $(153*\cos(799/2000)*\exp(141/400))/80 -$   
 $(6*\exp(141/400)*\sin(799/2000))/25,$   
 $(153*\cos(51/125)*\exp(9/25))/80 - (6*\exp(9/25)*\sin(51/125))/25,$   
 $(153*\cos(833/2000)*\exp(147/400))/80 -$   
 $(6*\exp(147/400)*\sin(833/2000))/25, (153*\cos(17/40)*\exp(3/8))/80$   
 $- (6*\exp(3/8)*\sin(17/40))/25,$   
 $(153*\cos(867/2000)*\exp(153/400))/80 -$   
 $(6*\exp(153/400)*\sin(867/2000))/25,$   
 $(153*\cos(221/500)*\exp(39/100))/80 -$   
 $(6*\exp(39/100)*\sin(221/500))/25,$   
 $(153*\cos(901/2000)*\exp(159/400))/80 -$   
 $(6*\exp(159/400)*\sin(901/2000))/25,$   
 $(153*\cos(459/1000)*\exp(81/200))/80 -$   
 $(6*\exp(81/200)*\sin(459/1000))/25,$   
 $(153*\cos(187/400)*\exp(33/80))/80 -$   
 $(6*\exp(33/80)*\sin(187/400))/25, (153*\cos(119/250)*\exp(21/50))/80$   
 $- (6*\exp(21/50)*\sin(119/250))/25,$   
 $(153*\cos(969/2000)*\exp(171/400))/80 -$   
 $(6*\exp(171/400)*\sin(969/2000))/25,$   
 $(153*\cos(493/1000)*\exp(87/200))/80 -$   
 $(6*\exp(87/200)*\sin(493/1000))/25,$   
 $(153*\cos(1003/2000)*\exp(177/400))/80 -$   
 $(6*\exp(177/400)*\sin(1003/2000))/25,$   
 $(153*\cos(51/100)*\exp(9/20))/80 - (6*\exp(9/20)*\sin(51/100))/25,$   
 $(153*\cos(1037/2000)*\exp(183/400))/80 -$   
 $(6*\exp(183/400)*\sin(1037/2000))/25,$   
 $(153*\cos(527/1000)*\exp(93/200))/80 -$   
 $(6*\exp(93/200)*\sin(527/1000))/25,$   
 $(153*\cos(1071/2000)*\exp(189/400))/80 -$



$(6 \cdot \exp(189/400) \cdot \sin(1071/2000)) / 25,$   
 $(153 \cdot \cos(68/125) \cdot \exp(12/25)) / 80 - (6 \cdot \exp(12/25) \cdot \sin(68/125)) / 25,$   
 $(153 \cdot \cos(221/400) \cdot \exp(39/80)) / 80 -$   
 $(6 \cdot \exp(39/80) \cdot \sin(221/400)) / 25,$   
 $(153 \cdot \cos(561/1000) \cdot \exp(99/200)) / 80 -$   
 $(6 \cdot \exp(99/200) \cdot \sin(561/1000)) / 25,$   
 $(153 \cdot \cos(1139/2000) \cdot \exp(201/400)) / 80 -$   
 $(6 \cdot \exp(201/400) \cdot \sin(1139/2000)) / 25,$   
 $(153 \cdot \cos(289/500) \cdot \exp(51/100)) / 80 -$   
 $(6 \cdot \exp(51/100) \cdot \sin(289/500)) / 25,$   
 $(153 \cdot \cos(1173/2000) \cdot \exp(207/400)) / 80 -$   
 $(6 \cdot \exp(207/400) \cdot \sin(1173/2000)) / 25,$   
 $(153 \cdot \cos(119/200) \cdot \exp(21/40)) / 80 -$   
 $(6 \cdot \exp(21/40) \cdot \sin(119/200)) / 25,$   
 $(153 \cdot \cos(1207/2000) \cdot \exp(213/400)) / 80 -$   
 $(6 \cdot \exp(213/400) \cdot \sin(1207/2000)) / 25,$   
 $(153 \cdot \cos(153/250) \cdot \exp(27/50)) / 80 -$   
 $(6 \cdot \exp(27/50) \cdot \sin(153/250)) / 25,$   
 $(153 \cdot \cos(1241/2000) \cdot \exp(219/400)) / 80 -$   
 $(6 \cdot \exp(219/400) \cdot \sin(1241/2000)) / 25,$   
 $(153 \cdot \cos(629/1000) \cdot \exp(111/200)) / 80 -$   
 $(6 \cdot \exp(111/200) \cdot \sin(629/1000)) / 25, (153 \cdot \cos(51/80) \cdot \exp(9/16)) / 80$   
 $- (6 \cdot \exp(9/16) \cdot \sin(51/80)) / 25, (153 \cdot \cos(323/500) \cdot \exp(57/100)) / 80$   
 $- (6 \cdot \exp(57/100) \cdot \sin(323/500)) / 25,$   
 $(153 \cdot \cos(1309/2000) \cdot \exp(231/400)) / 80 -$   
 $(6 \cdot \exp(231/400) \cdot \sin(1309/2000)) / 25,$   
 $(153 \cdot \cos(663/1000) \cdot \exp(117/200)) / 80 -$   
 $(6 \cdot \exp(117/200) \cdot \sin(663/1000)) / 25,$   
 $(153 \cdot \cos(1343/2000) \cdot \exp(237/400)) / 80 -$   
 $(6 \cdot \exp(237/400) \cdot \sin(1343/2000)) / 25, (153 \cdot \cos(17/25) \cdot \exp(3/5)) / 80$   
 $- (6 \cdot \exp(3/5) \cdot \sin(17/25)) / 25,$   
 $(153 \cdot \cos(1377/2000) \cdot \exp(243/400)) / 80 -$   
 $(6 \cdot \exp(243/400) \cdot \sin(1377/2000)) / 25,$   
 $(153 \cdot \cos(697/1000) \cdot \exp(123/200)) / 80 -$   
 $(6 \cdot \exp(123/200) \cdot \sin(697/1000)) / 25,$   
 $(153 \cdot \cos(1411/2000) \cdot \exp(249/400)) / 80 -$   
 $(6 \cdot \exp(249/400) \cdot \sin(1411/2000)) / 25,$   
 $(153 \cdot \cos(357/500) \cdot \exp(63/100)) / 80 -$   
 $(6 \cdot \exp(63/100) \cdot \sin(357/500)) / 25,$   
 $(153 \cdot \cos(289/400) \cdot \exp(51/80)) / 80 -$   
 $(6 \cdot \exp(51/80) \cdot \sin(289/400)) / 25,$   
 $(153 \cdot \cos(731/1000) \cdot \exp(129/200)) / 80 -$   
 $(6 \cdot \exp(129/200) \cdot \sin(731/1000)) / 25,$   
 $(153 \cdot \cos(1479/2000) \cdot \exp(261/400)) / 80 -$   
 $(6 \cdot \exp(261/400) \cdot \sin(1479/2000)) / 25,$   
 $(153 \cdot \cos(187/250) \cdot \exp(33/50)) / 80 -$   
 $(6 \cdot \exp(33/50) \cdot \sin(187/250)) / 25,$

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

$(153 \cos(969/1000) \exp(171/200)) / 80 -$   
 $(6 \exp(171/200) \sin(969/1000)) / 25,$   
 $(153 \cos(391/400) \exp(69/80)) / 80 -$   
 $(6 \exp(69/80) \sin(391/400)) / 25,$   
 $(153 \cos(493/500) \exp(87/100)) / 80 -$   
 $(6 \exp(87/100) \sin(493/500)) / 25,$   
 $(153 \cos(1989/2000) \exp(351/400)) / 80 -$   
 $(6 \exp(351/400) \sin(1989/2000)) / 25,$   
 $(153 \cos(1003/1000) \exp(177/200)) / 80 -$   
 $(6 \exp(177/200) \sin(1003/1000)) / 25,$   
 $(153 \cos(2023/2000) \exp(357/400)) / 80 -$   
 $(6 \exp(357/400) \sin(2023/2000)) / 25,$   
 $(153 \cos(51/50) \exp(9/10)) / 80 - (6 \exp(9/10) \sin(51/50)) / 25,$   
 $(153 \cos(2057/2000) \exp(363/400)) / 80 -$   
 $(6 \exp(363/400) \sin(2057/2000)) / 25,$   
 $(153 \cos(1037/1000) \exp(183/200)) / 80 -$   
 $(6 \exp(183/200) \sin(1037/1000)) / 25,$   
 $(153 \cos(2091/2000) \exp(369/400)) / 80 -$   
 $(6 \exp(369/400) \sin(2091/2000)) / 25,$   
 $(153 \cos(527/500) \exp(93/100)) / 80 -$   
 $(6 \exp(93/100) \sin(527/500)) / 25, (153 \cos(17/16) \exp(15/16)) / 80$   
 $- (6 \exp(15/16) \sin(17/16)) / 25,$   
 $(153 \cos(1071/1000) \exp(189/200)) / 80 -$   
 $(6 \exp(189/200) \sin(1071/1000)) / 25,$   
 $(153 \cos(2159/2000) \exp(381/400)) / 80 -$   
 $(6 \exp(381/400) \sin(2159/2000)) / 25,$   
 $(153 \cos(136/125) \exp(24/25)) / 80 -$   
 $(6 \exp(24/25) \sin(136/125)) / 25,$   
 $(153 \cos(2193/2000) \exp(387/400)) / 80 -$   
 $(6 \exp(387/400) \sin(2193/2000)) / 25,$   
 $(153 \cos(221/200) \exp(39/40)) / 80 -$   
 $(6 \exp(39/40) \sin(221/200)) / 25,$   
 $(153 \cos(2227/2000) \exp(393/400)) / 80 -$   
 $(6 \exp(393/400) \sin(2227/2000)) / 25,$   
 $(153 \cos(561/500) \exp(99/100)) / 80 -$   
 $(6 \exp(99/100) \sin(561/500)) / 25,$   
 $(153 \cos(2261/2000) \exp(399/400)) / 80 -$   
 $(6 \exp(399/400) \sin(2261/2000)) / 25,$   
 $(153 \cos(1139/1000) \exp(201/200)) / 80 -$   
 $(6 \exp(201/200) \sin(1139/1000)) / 25,$   
 $(153 \cos(459/400) \exp(81/80)) / 80 -$   
 $(6 \exp(81/80) \sin(459/400)) / 25, (153 \cos(289/250) \exp(51/50)) / 80$   
 $- (6 \exp(51/50) \sin(289/250)) / 25,$   
 $(153 \cos(2329/2000) \exp(411/400)) / 80 -$   
 $(6 \exp(411/400) \sin(2329/2000)) / 25,$   
 $(153 \cos(1173/1000) \exp(207/200)) / 80 -$   
 $(6 \exp(207/200) \sin(1173/1000)) / 25,$

$(153 \cdot \cos(2363/2000) \cdot \exp(417/400)) / 80 -$   
 $(6 \cdot \exp(417/400) \cdot \sin(2363/2000)) / 25,$   
 $(153 \cdot \cos(119/100) \cdot \exp(21/20)) / 80 -$   
 $(6 \cdot \exp(21/20) \cdot \sin(119/100)) / 25,$   
 $(153 \cdot \cos(2397/2000) \cdot \exp(423/400)) / 80 -$   
 $(6 \cdot \exp(423/400) \cdot \sin(2397/2000)) / 25,$   
 $(153 \cdot \cos(1207/1000) \cdot \exp(213/200)) / 80 -$   
 $(6 \cdot \exp(213/200) \cdot \sin(1207/1000)) / 25,$   
 $(153 \cdot \cos(2431/2000) \cdot \exp(429/400)) / 80 -$   
 $(6 \cdot \exp(429/400) \cdot \sin(2431/2000)) / 25,$   
 $(153 \cdot \cos(153/125) \cdot \exp(27/25)) / 80 -$   
 $(6 \cdot \exp(27/25) \cdot \sin(153/125)) / 25, (153 \cdot \cos(493/400) \cdot \exp(87/80)) / 80$   
 $- (6 \cdot \exp(87/80) \cdot \sin(493/400)) / 25,$   
 $(153 \cdot \cos(1241/1000) \cdot \exp(219/200)) / 80 -$   
 $(6 \cdot \exp(219/200) \cdot \sin(1241/1000)) / 25,$   
 $(153 \cdot \cos(2499/2000) \cdot \exp(441/400)) / 80 -$   
 $(6 \cdot \exp(441/400) \cdot \sin(2499/2000)) / 25,$   
 $(153 \cdot \cos(629/500) \cdot \exp(111/100)) / 80 -$   
 $(6 \cdot \exp(111/100) \cdot \sin(629/500)) / 25,$   
 $(153 \cdot \cos(2533/2000) \cdot \exp(447/400)) / 80 -$   
 $(6 \cdot \exp(447/400) \cdot \sin(2533/2000)) / 25, (153 \cdot \cos(51/40) \cdot \exp(9/8)) / 80$   
 $- (6 \cdot \exp(9/8) \cdot \sin(51/40)) / 25,$   
 $(153 \cdot \cos(2567/2000) \cdot \exp(453/400)) / 80 -$   
 $(6 \cdot \exp(453/400) \cdot \sin(2567/2000)) / 25,$   
 $(153 \cdot \cos(323/250) \cdot \exp(57/50)) / 80 -$   
 $(6 \cdot \exp(57/50) \cdot \sin(323/250)) / 25,$   
 $(153 \cdot \cos(2601/2000) \cdot \exp(459/400)) / 80 -$   
 $(6 \cdot \exp(459/400) \cdot \sin(2601/2000)) / 25,$   
 $(153 \cdot \cos(1309/1000) \cdot \exp(231/200)) / 80 -$   
 $(6 \cdot \exp(231/200) \cdot \sin(1309/1000)) / 25,$   
 $(153 \cdot \cos(527/400) \cdot \exp(93/80)) / 80 -$   
 $(6 \cdot \exp(93/80) \cdot \sin(527/400)) / 25,$   
 $(153 \cdot \cos(663/500) \cdot \exp(117/100)) / 80 -$   
 $(6 \cdot \exp(117/100) \cdot \sin(663/500)) / 25,$   
 $(153 \cdot \cos(2669/2000) \cdot \exp(471/400)) / 80 -$   
 $(6 \cdot \exp(471/400) \cdot \sin(2669/2000)) / 25,$   
 $(153 \cdot \cos(1343/1000) \cdot \exp(237/200)) / 80 -$   
 $(6 \cdot \exp(237/200) \cdot \sin(1343/1000)) / 25,$   
 $(153 \cdot \cos(2703/2000) \cdot \exp(477/400)) / 80 -$   
 $(6 \cdot \exp(477/400) \cdot \sin(2703/2000)) / 25, (153 \cdot \cos(34/25) \cdot \exp(6/5)) / 80$   
 $- (6 \cdot \exp(6/5) \cdot \sin(34/25)) / 25,$   
 $(153 \cdot \cos(2737/2000) \cdot \exp(483/400)) / 80 -$   
 $(6 \cdot \exp(483/400) \cdot \sin(2737/2000)) / 25,$   
 $(153 \cdot \cos(1377/1000) \cdot \exp(243/200)) / 80 -$   
 $(6 \cdot \exp(243/200) \cdot \sin(1377/1000)) / 25,$   
 $(153 \cdot \cos(2771/2000) \cdot \exp(489/400)) / 80 -$   
 $(6 \cdot \exp(489/400) \cdot \sin(2771/2000)) / 25,$

(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,

$(153 \cos(799/500) \exp(141/100)) / 80 -$   
 $(6 \exp(141/100) \sin(799/500)) / 25,$   
 $(153 \cos(3213/2000) \exp(567/400)) / 80 -$   
 $(6 \exp(567/400) \sin(3213/2000)) / 25,$   
 $(153 \cos(323/200) \exp(57/40)) / 80 -$   
 $(6 \exp(57/40) \sin(323/200)) / 25,$   
 $(153 \cos(3247/2000) \exp(573/400)) / 80 -$   
 $(6 \exp(573/400) \sin(3247/2000)) / 25,$   
 $(153 \cos(204/125) \exp(36/25)) / 80 -$   
 $(6 \exp(36/25) \sin(204/125)) / 25,$   
 $(153 \cos(3281/2000) \exp(579/400)) / 80 -$   
 $(6 \exp(579/400) \sin(3281/2000)) / 25,$   
 $(153 \cos(1649/1000) \exp(291/200)) / 80 -$   
 $(6 \exp(291/200) \sin(1649/1000)) / 25,$   
 $(153 \cos(663/400) \exp(117/80)) / 80 -$   
 $(6 \exp(117/80) \sin(663/400)) / 25,$   
 $(153 \cos(833/500) \exp(147/100)) / 80 -$   
 $(6 \exp(147/100) \sin(833/500)) / 25,$   
 $(153 \cos(3349/2000) \exp(591/400)) / 80 -$   
 $(6 \exp(591/400) \sin(3349/2000)) / 25,$   
 $(153 \cos(1683/1000) \exp(297/200)) / 80 -$   
 $(6 \exp(297/200) \sin(1683/1000)) / 25,$   
 $(153 \cos(3383/2000) \exp(597/400)) / 80 -$   
 $(6 \exp(597/400) \sin(3383/2000)) / 25, (153 \cos(17/10) \exp(3/2)) / 80$   
 $- (6 \exp(3/2) \sin(17/10)) / 25,$   
 $(153 \cos(3417/2000) \exp(603/400)) / 80 -$   
 $(6 \exp(603/400) \sin(3417/2000)) / 25,$   
 $(153 \cos(1717/1000) \exp(303/200)) / 80 -$   
 $(6 \exp(303/200) \sin(1717/1000)) / 25,$   
 $(153 \cos(3451/2000) \exp(609/400)) / 80 -$   
 $(6 \exp(609/400) \sin(3451/2000)) / 25,$   
 $(153 \cos(867/500) \exp(153/100)) / 80 -$   
 $(6 \exp(153/100) \sin(867/500)) / 25,$   
 $(153 \cos(697/400) \exp(123/80)) / 80 -$   
 $(6 \exp(123/80) \sin(697/400)) / 25,$   
 $(153 \cos(1751/1000) \exp(309/200)) / 80 -$   
 $(6 \exp(309/200) \sin(1751/1000)) / 25,$   
 $(153 \cos(3519/2000) \exp(621/400)) / 80 -$   
 $(6 \exp(621/400) \sin(3519/2000)) / 25,$   
 $(153 \cos(221/125) \exp(39/25)) / 80 -$   
 $(6 \exp(39/25) \sin(221/125)) / 25,$   
 $(153 \cos(3553/2000) \exp(627/400)) / 80 -$   
 $(6 \exp(627/400) \sin(3553/2000)) / 25,$   
 $(153 \cos(357/200) \exp(63/40)) / 80 -$   
 $(6 \exp(63/40) \sin(357/200)) / 25,$   
 $(153 \cos(3587/2000) \exp(633/400)) / 80 -$   
 $(6 \exp(633/400) \sin(3587/2000)) / 25,$

$(153 \cos(901/500) \exp(159/100)) / 80 -$   
 $(6 \exp(159/100) \sin(901/500)) / 25,$   
 $(153 \cos(3621/2000) \exp(639/400)) / 80 -$   
 $(6 \exp(639/400) \sin(3621/2000)) / 25,$   
 $(153 \cos(1819/1000) \exp(321/200)) / 80 -$   
 $(6 \exp(321/200) \sin(1819/1000)) / 25,$   
 $(153 \cos(731/400) \exp(129/80)) / 80 -$   
 $(6 \exp(129/80) \sin(731/400)) / 25,$   
 $(153 \cos(459/250) \exp(81/50)) / 80 -$   
 $(6 \exp(81/50) \sin(459/250)) / 25,$   
 $(153 \cos(3689/2000) \exp(651/400)) / 80 -$   
 $(6 \exp(651/400) \sin(3689/2000)) / 25,$   
 $(153 \cos(1853/1000) \exp(327/200)) / 80 -$   
 $(6 \exp(327/200) \sin(1853/1000)) / 25,$   
 $(153 \cos(3723/2000) \exp(657/400)) / 80 -$   
 $(6 \exp(657/400) \sin(3723/2000)) / 25,$   
 $(153 \cos(187/100) \exp(33/20)) / 80 -$   
 $(6 \exp(33/20) \sin(187/100)) / 25,$   
 $(153 \cos(3757/2000) \exp(663/400)) / 80 -$   
 $(6 \exp(663/400) \sin(3757/2000)) / 25,$   
 $(153 \cos(1887/1000) \exp(333/200)) / 80 -$   
 $(6 \exp(333/200) \sin(1887/1000)) / 25,$   
 $(153 \cos(3791/2000) \exp(669/400)) / 80 -$   
 $(6 \exp(669/400) \sin(3791/2000)) / 25,$   
 $(153 \cos(238/125) \exp(42/25)) / 80 -$   
 $(6 \exp(42/25) \sin(238/125)) / 25, (153 \cos(153/80) \exp(27/16)) / 80$   
 $- (6 \exp(27/16) \sin(153/80)) / 25,$   
 $(153 \cos(1921/1000) \exp(339/200)) / 80 -$   
 $(6 \exp(339/200) \sin(1921/1000)) / 25,$   
 $(153 \cos(3859/2000) \exp(681/400)) / 80 -$   
 $(6 \exp(681/400) \sin(3859/2000)) / 25,$   
 $(153 \cos(969/500) \exp(171/100)) / 80 -$   
 $(6 \exp(171/100) \sin(969/500)) / 25,$   
 $(153 \cos(3893/2000) \exp(687/400)) / 80 -$   
 $(6 \exp(687/400) \sin(3893/2000)) / 25,$   
 $(153 \cos(391/200) \exp(69/40)) / 80 -$   
 $(6 \exp(69/40) \sin(391/200)) / 25,$   
 $(153 \cos(3927/2000) \exp(693/400)) / 80 -$   
 $(6 \exp(693/400) \sin(3927/2000)) / 25,$   
 $(153 \cos(493/250) \exp(87/50)) / 80 -$   
 $(6 \exp(87/50) \sin(493/250)) / 25,$   
 $(153 \cos(3961/2000) \exp(699/400)) / 80 -$   
 $(6 \exp(699/400) \sin(3961/2000)) / 25,$   
 $(153 \cos(1989/1000) \exp(351/200)) / 80 -$   
 $(6 \exp(351/200) \sin(1989/1000)) / 25,$   
 $(153 \cos(799/400) \exp(141/80)) / 80 -$   
 $(6 \exp(141/80) \sin(799/400)) / 25,$

$(153 \cos(1003/500) \exp(177/100)) / 80 -$   
 $(6 \exp(177/100) \sin(1003/500)) / 25,$   
 $(153 \cos(4029/2000) \exp(711/400)) / 80 -$   
 $(6 \exp(711/400) \sin(4029/2000)) / 25,$   
 $(153 \cos(2023/1000) \exp(357/200)) / 80 -$   
 $(6 \exp(357/200) \sin(2023/1000)) / 25,$   
 $(153 \cos(4063/2000) \exp(717/400)) / 80 -$   
 $(6 \exp(717/400) \sin(4063/2000)) / 25, (153 \cos(51/25) \exp(9/5)) / 80$   
 $- (6 \exp(9/5) \sin(51/25)) / 25,$   
 $(153 \cos(4097/2000) \exp(723/400)) / 80 -$   
 $(6 \exp(723/400) \sin(4097/2000)) / 25,$   
 $(153 \cos(2057/1000) \exp(363/200)) / 80 -$   
 $(6 \exp(363/200) \sin(2057/1000)) / 25,$   
 $(153 \cos(4131/2000) \exp(729/400)) / 80 -$   
 $(6 \exp(729/400) \sin(4131/2000)) / 25,$   
 $(153 \cos(1037/500) \exp(183/100)) / 80 -$   
 $(6 \exp(183/100) \sin(1037/500)) / 25,$   
 $(153 \cos(833/400) \exp(147/80)) / 80 -$   
 $(6 \exp(147/80) \sin(833/400)) / 25,$   
 $(153 \cos(2091/1000) \exp(369/200)) / 80 -$   
 $(6 \exp(369/200) \sin(2091/1000)) / 25,$   
 $(153 \cos(4199/2000) \exp(741/400)) / 80 -$   
 $(6 \exp(741/400) \sin(4199/2000)) / 25,$   
 $(153 \cos(527/250) \exp(93/50)) / 80 -$   
 $(6 \exp(93/50) \sin(527/250)) / 25,$   
 $(153 \cos(4233/2000) \exp(747/400)) / 80 -$   
 $(6 \exp(747/400) \sin(4233/2000)) / 25, (153 \cos(17/8) \exp(15/8)) / 80$   
 $- (6 \exp(15/8) \sin(17/8)) / 25,$   
 $(153 \cos(4267/2000) \exp(753/400)) / 80 -$   
 $(6 \exp(753/400) \sin(4267/2000)) / 25,$   
 $(153 \cos(1071/500) \exp(189/100)) / 80 -$   
 $(6 \exp(189/100) \sin(1071/500)) / 25,$   
 $(153 \cos(4301/2000) \exp(759/400)) / 80 -$   
 $(6 \exp(759/400) \sin(4301/2000)) / 25,$   
 $(153 \cos(2159/1000) \exp(381/200)) / 80 -$   
 $(6 \exp(381/200) \sin(2159/1000)) / 25,$   
 $(153 \cos(867/400) \exp(153/80)) / 80 -$   
 $(6 \exp(153/80) \sin(867/400)) / 25,$   
 $(153 \cos(272/125) \exp(48/25)) / 80 -$   
 $(6 \exp(48/25) \sin(272/125)) / 25,$   
 $(153 \cos(4369/2000) \exp(771/400)) / 80 -$   
 $(6 \exp(771/400) \sin(4369/2000)) / 25,$   
 $(153 \cos(2193/1000) \exp(387/200)) / 80 -$   
 $(6 \exp(387/200) \sin(2193/1000)) / 25,$   
 $(153 \cos(4403/2000) \exp(777/400)) / 80 -$   
 $(6 \exp(777/400) \sin(4403/2000)) / 25,$   
 $(153 \cos(221/100) \exp(39/20)) / 80 -$

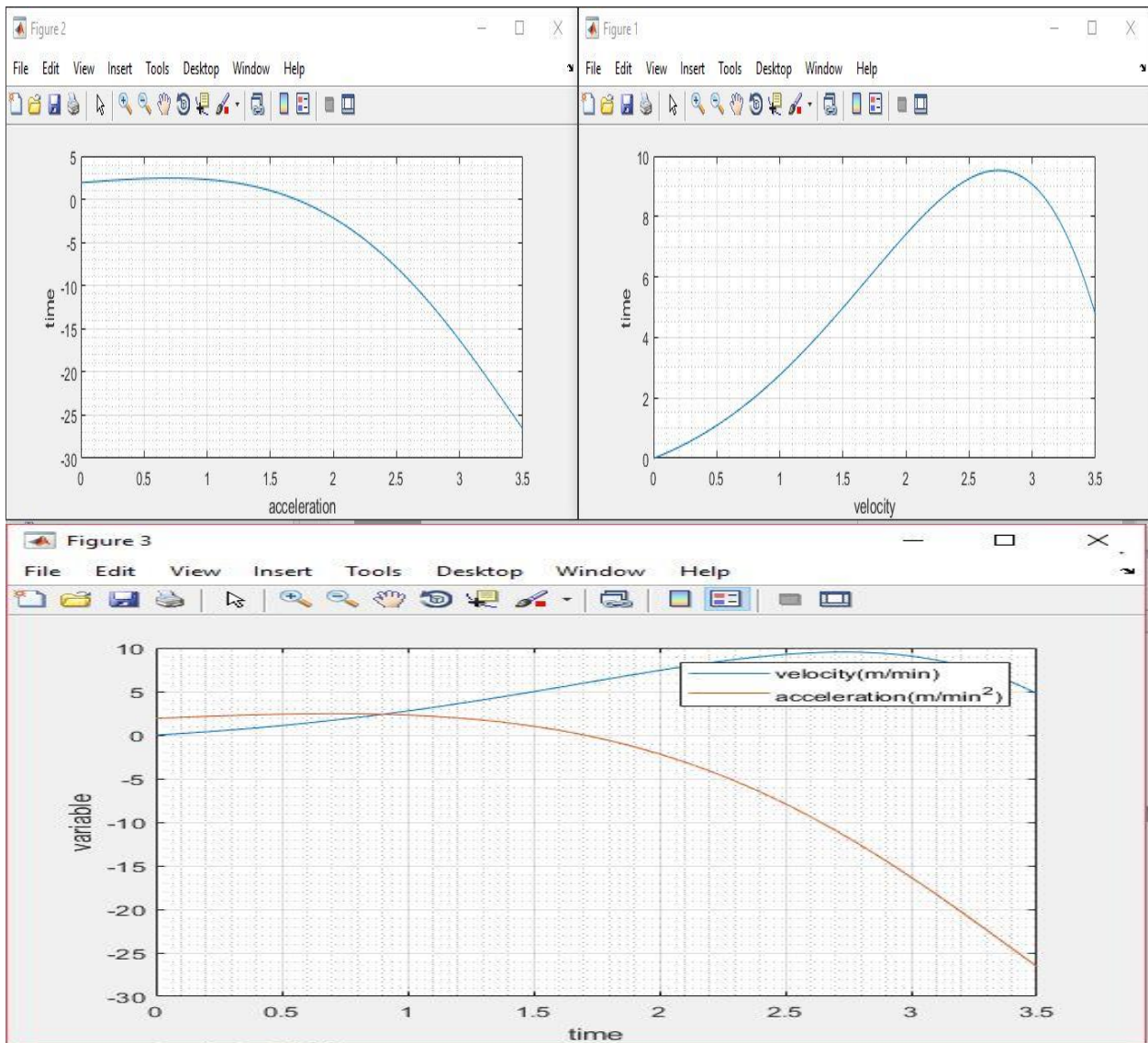


$(6*\exp(39/20)*\sin(221/100))/25,$   
 $(153*\cos(4437/2000)*\exp(783/400))/80 -$   
 $(6*\exp(783/400)*\sin(4437/2000))/25,$   
 $(153*\cos(2227/1000)*\exp(393/200))/80 -$   
 $(6*\exp(393/200)*\sin(2227/1000))/25,$   
 $(153*\cos(4471/2000)*\exp(789/400))/80 -$   
 $(6*\exp(789/400)*\sin(4471/2000))/25,$   
 $(153*\cos(561/250)*\exp(99/50))/80 -$   
 $(6*\exp(99/50)*\sin(561/250))/25,$   
 $(153*\cos(901/400)*\exp(159/80))/80 -$   
 $(6*\exp(159/80)*\sin(901/400))/25,$   
 $(153*\cos(2261/1000)*\exp(399/200))/80 -$   
 $(6*\exp(399/200)*\sin(2261/1000))/25,$   
 $(153*\cos(4539/2000)*\exp(801/400))/80 -$   
 $(6*\exp(801/400)*\sin(4539/2000))/25,$   
 $(153*\cos(1139/500)*\exp(201/100))/80 -$   
 $(6*\exp(201/100)*\sin(1139/500))/25,$   
 $(153*\cos(4573/2000)*\exp(807/400))/80 -$   
 $(6*\exp(807/400)*\sin(4573/2000))/25,$   
 $(153*\cos(459/200)*\exp(81/40))/80 -$   
 $(6*\exp(81/40)*\sin(459/200))/25,$   
 $(153*\cos(4607/2000)*\exp(813/400))/80 -$   
 $(6*\exp(813/400)*\sin(4607/2000))/25,$   
 $(153*\cos(289/125)*\exp(51/25))/80 -$   
 $(6*\exp(51/25)*\sin(289/125))/25,$   
 $(153*\cos(4641/2000)*\exp(819/400))/80 -$   
 $(6*\exp(819/400)*\sin(4641/2000))/25,$   
 $(153*\cos(2329/1000)*\exp(411/200))/80 -$   
 $(6*\exp(411/200)*\sin(2329/1000))/25,$   
 $(153*\cos(187/80)*\exp(33/16))/80 - (6*\exp(33/16)*\sin(187/80))/25,$   
 $(153*\cos(1173/500)*\exp(207/100))/80 -$   
 $(6*\exp(207/100)*\sin(1173/500))/25,$   
 $(153*\cos(4709/2000)*\exp(831/400))/80 -$   
 $(6*\exp(831/400)*\sin(4709/2000))/25,$   
 $(153*\cos(2363/1000)*\exp(417/200))/80 -$   
 $(6*\exp(417/200)*\sin(2363/1000))/25,$   
 $(153*\cos(4743/2000)*\exp(837/400))/80 -$   
 $(6*\exp(837/400)*\sin(4743/2000))/25,$   
 $(153*\cos(119/50)*\exp(21/10))/80 - (6*\exp(21/10)*\sin(119/50))/25,$   
 $(153*\cos(4777/2000)*\exp(843/400))/80 -$   
 $(6*\exp(843/400)*\sin(4777/2000))/25,$   
 $(153*\cos(2397/1000)*\exp(423/200))/80 -$   
 $(6*\exp(423/200)*\sin(2397/1000))/25,$   
 $(153*\cos(4811/2000)*\exp(849/400))/80 -$   
 $(6*\exp(849/400)*\sin(4811/2000))/25,$   
 $(153*\cos(1207/500)*\exp(213/100))/80 -$   
 $(6*\exp(213/100)*\sin(1207/500))/25,$

$(153 \cos(969/400) \exp(171/80)) / 80 -$   
 $(6 \exp(171/80) \sin(969/400)) / 25,$   
 $(153 \cos(2431/1000) \exp(429/200)) / 80 -$   
 $(6 \exp(429/200) \sin(2431/1000)) / 25,$   
 $(153 \cos(4879/2000) \exp(861/400)) / 80 -$   
 $(6 \exp(861/400) \sin(4879/2000)) / 25,$   
 $(153 \cos(306/125) \exp(54/25)) / 80 -$   
 $(6 \exp(54/25) \sin(306/125)) / 25,$   
 $(153 \cos(4913/2000) \exp(867/400)) / 80 -$   
 $(6 \exp(867/400) \sin(4913/2000)) / 25,$   
 $(153 \cos(493/200) \exp(87/40)) / 80 -$   
 $(6 \exp(87/40) \sin(493/200)) / 25,$   
 $(153 \cos(4947/2000) \exp(873/400)) / 80 -$   
 $(6 \exp(873/400) \sin(4947/2000)) / 25,$   
 $(153 \cos(1241/500) \exp(219/100)) / 80 -$   
 $(6 \exp(219/100) \sin(1241/500)) / 25,$   
 $(153 \cos(4981/2000) \exp(879/400)) / 80 -$   
 $(6 \exp(879/400) \sin(4981/2000)) / 25,$   
 $(153 \cos(2499/1000) \exp(441/200)) / 80 -$   
 $(6 \exp(441/200) \sin(2499/1000)) / 25,$   
 $(153 \cos(1003/400) \exp(177/80)) / 80 -$   
 $(6 \exp(177/80) \sin(1003/400)) / 25,$   
 $(153 \cos(629/250) \exp(111/50)) / 80 -$   
 $(6 \exp(111/50) \sin(629/250)) / 25,$   
 $(153 \cos(5049/2000) \exp(891/400)) / 80 -$   
 $(6 \exp(891/400) \sin(5049/2000)) / 25,$   
 $(153 \cos(2533/1000) \exp(447/200)) / 80 -$   
 $(6 \exp(447/200) \sin(2533/1000)) / 25,$   
 $(153 \cos(5083/2000) \exp(897/400)) / 80 -$   
 $(6 \exp(897/400) \sin(5083/2000)) / 25, (153 \cos(51/20) \exp(9/4)) / 80$   
 $- (6 \exp(9/4) \sin(51/20)) / 25,$   
 $(153 \cos(5117/2000) \exp(903/400)) / 80 -$   
 $(6 \exp(903/400) \sin(5117/2000)) / 25,$   
 $(153 \cos(2567/1000) \exp(453/200)) / 80 -$   
 $(6 \exp(453/200) \sin(2567/1000)) / 25,$   
 $(153 \cos(5151/2000) \exp(909/400)) / 80 -$   
 $(6 \exp(909/400) \sin(5151/2000)) / 25,$   
 $(153 \cos(323/125) \exp(57/25)) / 80 -$   
 $(6 \exp(57/25) \sin(323/125)) / 25,$   
 $(153 \cos(1037/400) \exp(183/80)) / 80 -$   
 $(6 \exp(183/80) \sin(1037/400)) / 25,$   
 $(153 \cos(2601/1000) \exp(459/200)) / 80 -$   
 $(6 \exp(459/200) \sin(2601/1000)) / 25,$   
 $(153 \cos(5219/2000) \exp(921/400)) / 80 -$   
 $(6 \exp(921/400) \sin(5219/2000)) / 25,$   
 $(153 \cos(1309/500) \exp(231/100)) / 80 -$   
 $(6 \exp(231/100) \sin(1309/500)) / 25,$

$(153 \cdot \cos(5253/2000) \cdot \exp(927/400)) / 80 -$   
 $(6 \cdot \exp(927/400) \cdot \sin(5253/2000)) / 25,$   
 $(153 \cdot \cos(527/200) \cdot \exp(93/40)) / 80 -$   
 $(6 \cdot \exp(93/40) \cdot \sin(527/200)) / 25,$   
 $(153 \cdot \cos(5287/2000) \cdot \exp(933/400)) / 80 -$   
 $(6 \cdot \exp(933/400) \cdot \sin(5287/2000)) / 25,$   
 $(153 \cdot \cos(663/250) \cdot \exp(117/50)) / 80 -$   
 $(6 \cdot \exp(117/50) \cdot \sin(663/250)) / 25,$   
 $(153 \cdot \cos(5321/2000) \cdot \exp(939/400)) / 80 -$   
 $(6 \cdot \exp(939/400) \cdot \sin(5321/2000)) / 25,$   
 $(153 \cdot \cos(2669/1000) \cdot \exp(471/200)) / 80 -$   
 $(6 \cdot \exp(471/200) \cdot \sin(2669/1000)) / 25,$   
 $(153 \cdot \cos(1071/400) \cdot \exp(189/80)) / 80 -$   
 $(6 \cdot \exp(189/80) \cdot \sin(1071/400)) / 25,$   
 $(153 \cdot \cos(1343/500) \cdot \exp(237/100)) / 80 -$   
 $(6 \cdot \exp(237/100) \cdot \sin(1343/500)) / 25,$   
 $(153 \cdot \cos(5389/2000) \cdot \exp(951/400)) / 80 -$   
 $(6 \cdot \exp(951/400) \cdot \sin(5389/2000)) / 25,$   
 $(153 \cdot \cos(2703/1000) \cdot \exp(477/200)) / 80 -$   
 $(6 \cdot \exp(477/200) \cdot \sin(2703/1000)) / 25,$   
 $(153 \cdot \cos(5423/2000) \cdot \exp(957/400)) / 80 -$   
 $(6 \cdot \exp(957/400) \cdot \sin(5423/2000)) / 25,$   
 $(153 \cdot \cos(68/25) \cdot \exp(12/5)) / 80 - (6 \cdot \exp(12/5) \cdot \sin(68/25)) / 25,$   
 $(153 \cdot \cos(5457/2000) \cdot \exp(963/400)) / 80 -$   
 $(6 \cdot \exp(963/400) \cdot \sin(5457/2000)) / 25,$   
 $(153 \cdot \cos(2737/1000) \cdot \exp(483/200)) / 80 -$   
 $(6 \cdot \exp(483/200) \cdot \sin(2737/1000)) / 25,$   
 $(153 \cdot \cos(5491/2000) \cdot \exp(969/400)) / 80 -$   
 $(6 \cdot \exp(969/400) \cdot \sin(5491/2000)) / 25,$   
 $(153 \cdot \cos(1377/500) \cdot \exp(243/100)) / 80 -$   
 $(6 \cdot \exp(243/100) \cdot \sin(1377/500)) / 25,$   
 $(153 \cdot \cos(221/80) \cdot \exp(39/16)) / 80 - (6 \cdot \exp(39/16) \cdot \sin(221/80)) / 25,$   
 $(153 \cdot \cos(2771/1000) \cdot \exp(489/200)) / 80 -$   
 $(6 \cdot \exp(489/200) \cdot \sin(2771/1000)) / 25,$   
 $(153 \cdot \cos(5559/2000) \cdot \exp(981/400)) / 80 -$   
 $(6 \cdot \exp(981/400) \cdot \sin(5559/2000)) / 25,$   
 $(153 \cdot \cos(697/250) \cdot \exp(123/50)) / 80 -$   
 $(6 \cdot \exp(123/50) \cdot \sin(697/250)) / 25,$   
 $(153 \cdot \cos(5593/2000) \cdot \exp(987/400)) / 80 -$   
 $(6 \cdot \exp(987/400) \cdot \sin(5593/2000)) / 25,$   
 $(153 \cdot \cos(561/200) \cdot \exp(99/40)) / 80 -$   
 $(6 \cdot \exp(99/40) \cdot \sin(561/200)) / 25,$   
 $(153 \cdot \cos(5627/2000) \cdot \exp(993/400)) / 80 -$   
 $(6 \cdot \exp(993/400) \cdot \sin(5627/2000)) / 25,$   
 $(153 \cdot \cos(1411/500) \cdot \exp(249/100)) / 80 -$   
 $(6 \cdot \exp(249/100) \cdot \sin(1411/500)) / 25,$   
 $(153 \cdot \cos(5661/2000) \cdot \exp(999/400)) / 80 -$

$(6*\exp(999/400)*\sin(5661/2000))/25,$   
 $(153*\cos(2839/1000)*\exp(501/200))/80 -$   
 $(6*\exp(501/200)*\sin(2839/1000))/25,$   
 $(153*\cos(1139/400)*\exp(201/80))/80 -$   
 $(6*\exp(201/80)*\sin(1139/400))/25,$   
 $(153*\cos(357/125)*\exp(63/25))/80 -$   
 $(6*\exp(63/25)*\sin(357/125))/25,$   
 $(153*\cos(5729/2000)*\exp(1011/400))/80 -$   
 $(6*\exp(1011/400)*\sin(5729/2000))/25,$   
 $(153*\cos(2873/1000)*\exp(507/200))/80 -$   
 $(6*\exp(507/200)*\sin(2873/1000))/25,$   
 $(153*\cos(5763/2000)*\exp(1017/400))/80 -$   
 $(6*\exp(1017/400)*\sin(5763/2000))/25,$   
 $(153*\cos(289/100)*\exp(51/20))/80 -$   
 $(6*\exp(51/20)*\sin(289/100))/25,$   
 $(153*\cos(5797/2000)*\exp(1023/400))/80 -$   
 $(6*\exp(1023/400)*\sin(5797/2000))/25,$   
 $(153*\cos(2907/1000)*\exp(513/200))/80 -$   
 $(6*\exp(513/200)*\sin(2907/1000))/25,$   
 $(153*\cos(5831/2000)*\exp(1029/400))/80 -$   
 $(6*\exp(1029/400)*\sin(5831/2000))/25,$   
 $(153*\cos(731/250)*\exp(129/50))/80 -$   
 $(6*\exp(129/50)*\sin(731/250))/25,$   
 $(153*\cos(1173/400)*\exp(207/80))/80 -$   
 $(6*\exp(207/80)*\sin(1173/400))/25,$   
 $(153*\cos(2941/1000)*\exp(519/200))/80 -$   
 $(6*\exp(519/200)*\sin(2941/1000))/25,$   
 $(153*\cos(5899/2000)*\exp(1041/400))/80 -$   
 $(6*\exp(1041/400)*\sin(5899/2000))/25,$   
 $(153*\cos(1479/500)*\exp(261/100))/80 -$   
 $(6*\exp(261/100)*\sin(1479/500))/25,$   
 $(153*\cos(5933/2000)*\exp(1047/400))/80 -$   
 $(6*\exp(1047/400)*\sin(5933/2000))/25,$   
 $(153*\cos(119/40)*\exp(21/8))/80 - (6*\exp(21/8)*\sin(119/40))/25]$



>>

```

Question3
commandwindow
clear
clc
syms x
close all
F=5*(sin(5*x))^3
v=int(pi * F^2)
vn1=subs(v,0)
vn2=subs(v,pi)
vn=vn2-vn1

```

answer

F =

$$5 \sin(5x)^3$$

v =

$$(5\pi(300x - 45\sin(10x) + 9\sin(20x) - \sin(30x)))/192$$

vn1 =

0

vn2 =

$$(125\pi^2)/16$$

vn =

$$(125\pi^2)/16$$

>>