```
commandwindow
clear
clc
close all
syms t
d=1.5*exp(-0.75*t)*sin(0.82*t)+0.375*t
tn=[0:0.01:2.5]
dn=subs(d,tn)
figure(1)
plot(dn,tn)
xlabel('x')
ylabel('y')
grid on
grid minor
axis tight
v=diff(d)
vn=subs(v,tn)
figure(2)
plot(tn,vn)
xlabel('time(min)')
ylabel('velocity(m/mins)')
grid on
grid minor
axis tight
a=diff(v)
an=subs(a,tn)
figure(3)
plot(tn,an)
xlabel('time(min)')
ylabel('Acceleration(m/min)')
grid on
grid minor
axis tight
figure(4)
plot(tn,dn,tn,vn,tn,an)
xlabel('time(min)')
ylabel('variable')
legend('Distance(min)','Velocity(m/min)','Acceleration(m/min^2)','Location','
Best')
commandwindow
clear
clc
close all
syms t
d=1.5*exp(-0.75*t)*sin(0.82*t)+0.375*t
tn=[0:0.01:2.5]
dn=subs(d,tn)
figure(1)
plot(dn,tn)
xlabel('x')
ylabel('y')
grid on
grid minor
axis tight
v=diff(d)
vn=subs(v,tn)
figure(2)
```

d =

(3*t)/8 + (3*sin((41*t)/50)*exp(-(3*t)/4))/2

tn =

Columns 1 through 9

    0   0.01   0.02   0.03   0.04   0.05   0.06   0.07   0.08

Columns 10 through 18

   0.09   0.1   0.11   0.12   0.13   0.14   0.15   0.16   0.17

Columns 19 through 27

   0.18   0.19   0.2   0.21   0.22   0.23   0.24   0.25   0.26

Columns 28 through 36

   0.27   0.28   0.29   0.3   0.31   0.32   0.33   0.34   0.35

Columns 37 through 45

   0.36   0.37   0.38   0.39   0.4   0.41   0.42   0.43   0.44

Columns 46 through 54

0.45   0.46   0.47   0.48   0.49   0.5   0.51   0.52   0.53

Columns 55 through 63

0.54   0.55   0.56   0.57   0.58   0.59   0.6   0.61   0.62

Columns 64 through 72

0.63   0.64   0.65   0.66   0.67   0.68   0.69   0.7   0.71

Columns 73 through 81

0.72   0.73   0.74   0.75   0.76   0.77   0.78   0.79   0.8

Columns 82 through 90

0.81   0.82   0.83   0.84   0.85   0.86   0.87   0.88   0.89

Columns 91 through 99

0.9   0.91   0.92   0.93   0.94   0.95   0.96   0.97   0.98

Columns 100 through 108

0.99   1   1.01   1.02   1.03   1.04   1.05   1.06   1.07

Columns 109 through 117

1.08   1.09   1.1   1.11   1.12   1.13   1.14   1.15   1.16

Columns 118 through 126

| 1.17 | 1.18 | 1.19 | 1.2 | 1.21 | 1.22 | 1.23 | 1.24 | 1.25 |

Columns 127 through 135

| 1.26 | 1.27 | 1.28 | 1.29 | 1.3 | 1.31 | 1.32 | 1.33 | 1.34 |

Columns 136 through 144

| 1.35 | 1.36 | 1.37 | 1.38 | 1.39 | 1.4 | 1.41 | 1.42 | 1.43 |

Columns 145 through 153

| 1.44 | 1.45 | 1.46 | 1.47 | 1.48 | 1.49 | 1.5 | 1.51 | 1.52 |

Columns 154 through 162

| 1.53 | 1.54 | 1.55 | 1.56 | 1.57 | 1.58 | 1.59 | 1.6 | 1.61 |

Columns 163 through 171

| 1.62 | 1.63 | 1.64 | 1.65 | 1.66 | 1.67 | 1.68 | 1.69 | 1.7 |

Columns 172 through 180

| 1.71 | 1.72 | 1.73 | 1.74 | 1.75 | 1.76 | 1.77 | 1.78 | 1.79 |

Columns 181 through 189

    1.8   1.81   1.82   1.83   1.84   1.85   1.86   1.87   1.88

Columns 190 through 198

    1.89   1.9   1.91   1.92   1.93   1.94   1.95   1.96   1.97

Columns 199 through 207

    1.98   1.99   2   2.01   2.02   2.03   2.04   2.05   2.06

Columns 208 through 216

    2.07   2.08   2.09   2.1   2.11   2.12   2.13   2.14   2.15

Columns 217 through 225

    2.16   2.17   2.18   2.19   2.2   2.21   2.22   2.23   2.24

Columns 226 through 234

    2.25   2.26   2.27   2.28   2.29   2.3   2.31   2.32   2.33

Columns 235 through 243

    2.34   2.35   2.36   2.37   2.38   2.39   2.4   2.41   2.42

Columns 244 through 251

2.43   2.44   2.45   2.46   2.47   2.48   2.49   2.5

dn =

[0, (3*exp(-3/400)*sin(41/5000))/2 + 3/800, (3*exp(-3/200)*sin(41/2500))/2 + 3/400, (3*exp(-9/400)*sin(123/5000))/2 + 9/800, (3*exp(-3/100)*sin(41/1250))/2 + 3/200, (3*exp(-3/80)*sin(41/1000))/2 + 3/160, (3*exp(-9/200)*sin(123/2500))/2 + 9/400, (3*exp(-21/400)*sin(287/5000))/2 + 21/800, (3*exp(-3/50)*sin(41/625))/2 + 3/100, (3*exp(-27/400)*sin(369/5000))/2 + 27/800, (3*exp(-3/40)*sin(41/500))/2 + 3/80, (3*exp(-33/400)*sin(451/5000))/2 + 33/800, (3*exp(-9/100)*sin(123/1250))/2 + 9/200, (3*exp(-39/400)*sin(533/5000))/2 + 39/800, (3*exp(-21/200)*sin(287/2500))/2 + 21/400, (3*exp(-9/80)*sin(123/1000))/2 + 9/160, (3*exp(-3/25)*sin(82/625))/2 + 3/50, (3*exp(-51/400)*sin(697/5000))/2 + 51/800, (3*exp(-27/200)*sin(369/2500))/2 + 27/400, (3*exp(-57/400)*sin(779/5000))/2 + 57/800, (3*exp(-3/20)*sin(41/250))/2 + 3/40, (3*exp(-63/400)*sin(861/5000))/2 + 63/800, (3*exp(-33/200)*sin(451/2500))/2 + 33/400, (3*exp(-69/400)*sin(943/5000))/2 + 69/800, (3*exp(-9/50)*sin(123/625))/2 + 9/100, (3*exp(-3/16)*sin(41/200))/2 + 3/32, (3*exp(-39/200)*sin(533/2500))/2 + 39/400, (3*exp(-81/400)*sin(1107/5000))/2 + 81/800, (3*exp(-21/100)*sin(287/1250))/2 + 21/200, (3*exp(-87/400)*sin(1189/5000))/2 + 87/800, (3*exp(-9/40)*sin(123/500))/2 + 9/80, (3*exp(-93/400)*sin(1271/5000))/2 + 93/800, (3*exp(-6/25)*sin(164/625))/2 + 3/25, (3*exp(-99/400)*sin(1353/5000))/2 + 99/800, (3*exp(-51/200)*sin(697/2500))/2 + 51/400, (3*exp(-21/80)*sin(287/1000))/2 + 21/160, (3*exp(-27/100)*sin(369/1250))/2 + 27/200, (3*exp(-111/400)*sin(1517/5000))/2 + 111/800, (3*exp(-57/200)*sin(779/2500))/2 + 57/400, (3*exp(-117/400)*sin(1599/5000))/2 + 117/800, (3*exp(-3/10)*sin(41/125))/2 + 3/20, (3*exp(-123/400)*sin(1681/5000))/2 + 123/800, (3*exp(-63/200)*sin(861/2500))/2 + 63/400, (3*exp(-129/400)*sin(1763/5000))/2 + 129/800, (3*exp(-33/100)*sin(451/1250))/2 + 33/200, (3*exp(-27/80)*sin(369/1000))/2 + 27/160, (3*exp(-69/200)*sin(943/2500))/2 + 69/400, (3*exp(-141/400)*sin(1927/5000))/2 + 141/800, (3*exp(-9/25)*sin(246/625))/2 + 9/50, (3*exp(-147/400)*sin(2009/5000))/2 + 147/800, (3*exp(-3/8)*sin(41/100))/2 + 3/16, (3*exp(-153/400)*sin(2091/5000))/2 + 153/800, (3*exp(-39/100)*sin(533/1250))/2 + 39/200, (3*exp(-159/400)*sin(2173/5000))/2 + 159/800, (3*exp(-81/200)*sin(1107/2500))/2 + 81/400, (3*exp(-33/80)*sin(451/1000))/2 + 33/160, (3*exp(-21/50)*sin(287/625))/2 + 21/100, (3*exp(-171/400)*sin(2337/5000))/2 + 171/800, (3*exp(-87/200)*sin(1189/2500))/2 + 87/400, (3*exp(-177/400)*sin(2419/5000))/2 + 177/800, (3*exp(-9/20)*sin(123/250))/2 + 9/40, (3*exp(-183/400)*sin(2501/5000))/2 + 183/800, (3*exp(-93/200)*sin(1271/2500))/2 + 93/400, (3*exp(-189/400)*sin(2583/5000))/2 + 189/800, (3*exp(-12/25)*sin(328/625))/2 + 6/25, (3*exp(-39/80)*sin(533/1000))/2 + 39/160, (3*exp(-99/200)*sin(1353/2500))/2 + 99/400, (3*exp(-201/400)*sin(2747/5000))/2 + 201/800, (3*exp(-51/100)*sin(697/1250))/2 + 51/200, (3*exp(-207/400)*sin(2829/5000))/2 + 207/800, (3*exp(-21/40)*sin(287/500))/2 + 21/80, (3*exp(-

213/400)*sin(2911/5000))/2 + 213/800, (3*exp(-27/50)*sin(369/625))/2 + 27/100, (3*exp(-219/400)*sin(2993/5000))/2 + 219/800, (3*exp(-111/200)*sin(1517/2500))/2 + 111/400, (3*exp(-9/16)*sin(123/200))/2 + 9/32, (3*exp(-57/100)*sin(779/1250))/2 + 57/200, (3*exp(-231/400)*sin(3157/5000))/2 + 231/800, (3*exp(-117/200)*sin(1599/2500))/2 + 117/400, (3*exp(-237/400)*sin(3239/5000))/2 + 237/800, (3*exp(-3/5)*sin(82/125))/2 + 3/10, (3*exp(-243/400)*sin(3321/5000))/2 + 243/800, (3*exp(-123/200)*sin(1681/2500))/2 + 123/400, (3*exp(-249/400)*sin(3403/5000))/2 + 249/800, (3*exp(-63/100)*sin(861/1250))/2 + 63/200, (3*exp(-51/80)*sin(697/1000))/2 + 51/160, (3*exp(-129/200)*sin(1763/2500))/2 + 129/400, (3*exp(-261/400)*sin(3567/5000))/2 + 261/800, (3*exp(-33/50)*sin(451/625))/2 + 33/100, (3*exp(-267/400)*sin(3649/5000))/2 + 267/800, (3*exp(-27/40)*sin(369/500))/2 + 27/80, (3*exp(-273/400)*sin(3731/5000))/2 + 273/800, (3*exp(-69/100)*sin(943/1250))/2 + 69/200, (3*exp(-279/400)*sin(3813/5000))/2 + 279/800, (3*exp(-141/200)*sin(1927/2500))/2 + 141/400, (3*exp(-57/80)*sin(779/1000))/2 + 57/160, (3*exp(-18/25)*sin(492/625))/2 + 9/25, (3*exp(-291/400)*sin(3977/5000))/2 + 291/800, (3*exp(-147/200)*sin(2009/2500))/2 + 147/400, (3*exp(-297/400)*sin(4059/5000))/2 + 297/800, (3*exp(-3/4)*sin(41/50))/2 + 3/8, (3*exp(-303/400)*sin(4141/5000))/2 + 303/800, (3*exp(-153/200)*sin(2091/2500))/2 + 153/400, (3*exp(-309/400)*sin(4223/5000))/2 + 309/800, (3*exp(-39/50)*sin(533/625))/2 + 39/100, (3*exp(-63/80)*sin(861/1000))/2 + 63/160, (3*exp(-159/200)*sin(2173/2500))/2 + 159/400, (3*exp(-321/400)*sin(4387/5000))/2 + 321/800, (3*exp(-81/100)*sin(1107/1250))/2 + 81/200, (3*exp(-327/400)*sin(4469/5000))/2 + 327/800, (3*exp(-33/40)*sin(451/500))/2 + 33/80, (3*exp(-333/400)*sin(4551/5000))/2 + 333/800, (3*exp(-21/25)*sin(574/625))/2 + 21/50, (3*exp(-339/400)*sin(4633/5000))/2 + 339/800, (3*exp(-171/200)*sin(2337/2500))/2 + 171/400, (3*exp(-69/80)*sin(943/1000))/2 + 69/160, (3*exp(-87/100)*sin(1189/1250))/2 + 87/200, (3*exp(-351/400)*sin(4797/5000))/2 + 351/800, (3*exp(-177/200)*sin(2419/2500))/2 + 177/400, (3*exp(-357/400)*sin(4879/5000))/2 + 357/800, (3*exp(-9/10)*sin(123/125))/2 + 9/20, (3*exp(-363/400)*sin(4961/5000))/2 + 363/800, (3*exp(-183/200)*sin(2501/2500))/2 + 183/400, (3*exp(-369/400)*sin(5043/5000))/2 + 369/800, (3*exp(-93/100)*sin(1271/1250))/2 + 93/200, (3*exp(-15/16)*sin(41/40))/2 + 15/32, (3*exp(-189/200)*sin(2583/2500))/2 + 189/400, (3*exp(-381/400)*sin(5207/5000))/2 + 381/800, (3*exp(-24/25)*sin(656/625))/2 + 12/25, (3*exp(-387/400)*sin(5289/5000))/2 + 387/800, (3*exp(-39/40)*sin(533/500))/2 + 39/80, (3*exp(-393/400)*sin(5371/5000))/2 + 393/800, (3*exp(-99/100)*sin(1353/1250))/2 + 99/200, (3*exp(-399/400)*sin(5453/5000))/2 + 399/800, (3*exp(-201/200)*sin(2747/2500))/2 + 201/400, (3*exp(-81/80)*sin(1107/1000))/2 + 81/160, (3*exp(-51/50)*sin(697/625))/2 + 51/100, (3*exp(-411/400)*sin(5617/5000))/2 + 411/800, (3*exp(-207/200)*sin(2829/2500))/2 + 207/400, (3*exp(-417/400)*sin(5699/5000))/2 + 417/800, (3*exp(-21/20)*sin(287/250))/2 + 21/40, (3*exp(-423/400)*sin(5781/5000))/2 + 423/800, (3*exp(-213/200)*sin(2911/2500))/2 + 213/400, (3*exp(-429/400)*sin(5863/5000))/2 + 429/800, (3*exp(-27/25)*sin(738/625))/2 + 27/50, (3*exp(-87/80)*sin(1189/1000))/2 + 87/160, (3*exp(-219/200)*sin(2993/2500))/2 + 219/400, (3*exp(-441/400)*sin(6027/5000))/2 + 441/800, (3*exp(-111/100)*sin(1517/1250))/2 + 111/200, (3*exp(-447/400)*sin(6109/5000))/2 + 447/800, (3*exp(-9/8)*sin(123/100))/2 + 9/16, (3*exp(-453/400)*sin(6191/5000))/2 + 453/800, (3*exp(-57/50)*sin(779/625))/2 + 57/100, (3*exp(-459/400)*sin(6273/5000))/2 + 459/800, (3*exp(-231/200)*sin(3157/2500))/2 + 231/400, (3*exp(-93/80)*sin(1271/1000))/2 + 93/160, (3*exp(-117/100)*sin(1599/1250))/2 + 117/200, (3*exp(-471/400)*sin(6437/5000))/2 + 471/800, (3*exp(-237/200)*sin(3239/2500))/2 + 237/400, (3*exp(-

477/400)*sin(6519/5000))/2 + 477/800, (3*exp(-6/5)*sin(164/125))/2 + 3/5, (3*exp(-483/400)*sin(6601/5000))/2 + 483/800, (3*exp(-243/200)*sin(3321/2500))/2 + 243/400, (3*exp(-489/400)*sin(6683/5000))/2 + 489/800, (3*exp(-123/100)*sin(1681/1250))/2 + 123/200, (3*exp(-99/80)*sin(1353/1000))/2 + 99/160, (3*exp(-249/200)*sin(3403/2500))/2 + 249/400, (3*exp(-501/400)*sin(6847/5000))/2 + 501/800, (3*exp(-63/50)*sin(861/625))/2 + 63/100, (3*exp(-507/400)*sin(6929/5000))/2 + 507/800, (3*exp(-51/40)*sin(697/500))/2 + 51/80, (3*exp(-513/400)*sin(7011/5000))/2 + 513/800, (3*exp(-129/100)*sin(1763/1250))/2 + 129/200, (3*exp(-519/400)*sin(7093/5000))/2 + 519/800, (3*exp(-261/200)*sin(3567/2500))/2 + 261/400, (3*exp(-21/16)*sin(287/200))/2 + 21/32, (3*exp(-33/25)*sin(902/625))/2 + 33/50, (3*exp(-531/400)*sin(7257/5000))/2 + 531/800, (3*exp(-267/200)*sin(3649/2500))/2 + 267/400, (3*exp(-537/400)*sin(7339/5000))/2 + 537/800, (3*exp(-27/20)*sin(369/250))/2 + 27/40, (3*exp(-543/400)*sin(7421/5000))/2 + 543/800, (3*exp(-273/200)*sin(3731/2500))/2 + 273/400, (3*exp(-549/400)*sin(7503/5000))/2 + 549/800, (3*exp(-69/50)*sin(943/625))/2 + 69/100, (3*exp(-111/80)*sin(1517/1000))/2 + 111/160, (3*exp(-279/200)*sin(3813/2500))/2 + 279/400, (3*exp(-561/400)*sin(7667/5000))/2 + 561/800, (3*exp(-141/100)*sin(1927/1250))/2 + 141/200, (3*exp(-567/400)*sin(7749/5000))/2 + 567/800, (3*exp(-57/40)*sin(779/500))/2 + 57/80, (3*exp(-573/400)*sin(7831/5000))/2 + 573/800, (3*exp(-36/25)*sin(984/625))/2 + 18/25, (3*exp(-579/400)*sin(7913/5000))/2 + 579/800, (3*exp(-291/200)*sin(3977/2500))/2 + 291/400, (3*exp(-117/80)*sin(1599/1000))/2 + 117/160, (3*exp(-147/100)*sin(2009/1250))/2 + 147/200, (3*exp(-591/400)*sin(8077/5000))/2 + 591/800, (3*exp(-297/200)*sin(4059/2500))/2 + 297/400, (3*exp(-597/400)*sin(8159/5000))/2 + 597/800, (3*exp(-3/2)*sin(41/25))/2 + 3/4, (3*exp(-603/400)*sin(8241/5000))/2 + 603/800, (3*exp(-303/200)*sin(4141/2500))/2 + 303/400, (3*exp(-609/400)*sin(8323/5000))/2 + 609/800, (3*exp(-153/100)*sin(2091/1250))/2 + 153/200, (3*exp(-123/80)*sin(1681/1000))/2 + 123/160, (3*exp(-309/200)*sin(4223/2500))/2 + 309/400, (3*exp(-621/400)*sin(8487/5000))/2 + 621/800, (3*exp(-39/25)*sin(1066/625))/2 + 39/50, (3*exp(-627/400)*sin(8569/5000))/2 + 627/800, (3*exp(-63/40)*sin(861/500))/2 + 63/80, (3*exp(-633/400)*sin(8651/5000))/2 + 633/800, (3*exp(-159/100)*sin(2173/1250))/2 + 159/200, (3*exp(-639/400)*sin(8733/5000))/2 + 639/800, (3*exp(-321/200)*sin(4387/2500))/2 + 321/400, (3*exp(-129/80)*sin(1763/1000))/2 + 129/160, (3*exp(-81/50)*sin(1107/625))/2 + 81/100, (3*exp(-651/400)*sin(8897/5000))/2 + 651/800, (3*exp(-327/200)*sin(4469/2500))/2 + 327/400, (3*exp(-657/400)*sin(8979/5000))/2 + 657/800, (3*exp(-33/20)*sin(451/250))/2 + 33/40, (3*exp(-663/400)*sin(9061/5000))/2 + 663/800, (3*exp(-333/200)*sin(4551/2500))/2 + 333/400, (3*exp(-669/400)*sin(9143/5000))/2 + 669/800, (3*exp(-42/25)*sin(1148/625))/2 + 21/25, (3*exp(-27/16)*sin(369/200))/2 + 27/32, (3*exp(-339/200)*sin(4633/2500))/2 + 339/400, (3*exp(-681/400)*sin(9307/5000))/2 + 681/800, (3*exp(-171/100)*sin(2337/1250))/2 + 171/200, (3*exp(-687/400)*sin(9389/5000))/2 + 687/800, (3*exp(-69/40)*sin(943/500))/2 + 69/80, (3*exp(-693/400)*sin(9471/5000))/2 + 693/800, (3*exp(-87/50)*sin(1189/625))/2 + 87/100, (3*exp(-699/400)*sin(9553/5000))/2 + 699/800, (3*exp(-351/200)*sin(4797/2500))/2 + 351/400, (3*exp(-141/80)*sin(1927/1000))/2 + 141/160, (3*exp(-177/100)*sin(2419/1250))/2 + 177/200, (3*exp(-711/400)*sin(9717/5000))/2 + 711/800, (3*exp(-357/200)*sin(4879/2500))/2 + 357/400, (3*exp(-717/400)*sin(9799/5000))/2 + 717/800, (3*exp(-9/5)*sin(246/125))/2 + 9/10, (3*exp(-723/400)*sin(9881/5000))/2 + 723/800, (3*exp(-363/200)*sin(4961/2500))/2 + 363/400, (3*exp(-729/400)*sin(9963/5000))/2 + 729/800, (3*exp(-183/100)*sin(2501/1250))/2 + 183/200, (3*exp(-147/80)*sin(2009/1000))/2 + 147/160, (3*exp(-369/200)*sin(5043/2500))/2 + 369/400, (3*exp(-

741/400)*sin(10127/5000))/2 + 741/800, (3*exp(-93/50)*sin(1271/625))/2 + 93/100, (3*exp(-747/400)*sin(10209/5000))/2 + 747/800, (3*exp(-15/8)*sin(41/20))/2 + 15/16]

v =

(123*cos((41*t)/50)*exp(-(3*t)/4))/100 - (9*sin((41*t)/50)*exp(-(3*t)/4))/8 + 3/8

vn =

[321/200, (123*cos(41/5000)*exp(-3/400))/100 - (9*exp(-3/400)*sin(41/5000))/8 + 3/8, (123*cos(41/2500)*exp(-3/200))/100 - (9*exp(-3/200)*sin(41/2500))/8 + 3/8, (123*cos(123/5000)*exp(-9/400))/100 - (9*exp(-9/400)*sin(123/5000))/8 + 3/8, (123*cos(41/1250)*exp(-3/100))/100 - (9*exp(-3/100)*sin(41/1250))/8 + 3/8, (123*cos(41/1000)*exp(-3/80))/100 - (9*exp(-3/80)*sin(41/1000))/8 + 3/8, (123*cos(123/2500)*exp(-9/200))/100 - (9*exp(-9/200)*sin(123/2500))/8 + 3/8, (123*cos(287/5000)*exp(-21/400))/100 - (9*exp(-21/400)*sin(287/5000))/8 + 3/8, (123*cos(41/625)*exp(-3/50))/100 - (9*exp(-3/50)*sin(41/625))/8 + 3/8, (123*cos(369/5000)*exp(-27/400))/100 - (9*exp(-27/400)*sin(369/5000))/8 + 3/8, (123*cos(41/500)*exp(-3/40))/100 - (9*exp(-3/40)*sin(41/500))/8 + 3/8, (123*cos(451/5000)*exp(-33/400))/100 - (9*exp(-33/400)*sin(451/5000))/8 + 3/8, (123*cos(123/1250)*exp(-9/100))/100 - (9*exp(-9/100)*sin(123/1250))/8 + 3/8, (123*cos(533/5000)*exp(-39/400))/100 - (9*exp(-39/400)*sin(533/5000))/8 + 3/8, (123*cos(287/2500)*exp(-21/200))/100 - (9*exp(-21/200)*sin(287/2500))/8 + 3/8, (123*cos(123/1000)*exp(-9/80))/100 - (9*exp(-9/80)*sin(123/1000))/8 + 3/8, (123*cos(82/625)*exp(-3/25))/100 - (9*exp(-3/25)*sin(82/625))/8 + 3/8, (123*cos(697/5000)*exp(-51/400))/100 - (9*exp(-51/400)*sin(697/5000))/8 + 3/8, (123*cos(369/2500)*exp(-27/200))/100 - (9*exp(-27/200)*sin(369/2500))/8 + 3/8, (123*cos(779/5000)*exp(-57/400))/100 - (9*exp(-57/400)*sin(779/5000))/8 + 3/8, (123*cos(41/250)*exp(-3/20))/100 - (9*exp(-3/20)*sin(41/250))/8 + 3/8, (123*cos(861/5000)*exp(-63/400))/100 - (9*exp(-63/400)*sin(861/5000))/8 + 3/8, (123*cos(451/2500)*exp(-33/200))/100 - (9*exp(-33/200)*sin(451/2500))/8 + 3/8, (123*cos(943/5000)*exp(-69/400))/100 - (9*exp(-69/400)*sin(943/5000))/8 + 3/8, (123*cos(123/625)*exp(-9/50))/100 - (9*exp(-9/50)*sin(123/625))/8 + 3/8, (123*cos(41/200)*exp(-3/16))/100 - (9*exp(-3/16)*sin(41/200))/8 + 3/8, (123*cos(533/2500)*exp(-39/200))/100 - (9*exp(-39/200)*sin(533/2500))/8 + 3/8, (123*cos(1107/5000)*exp(-81/400))/100 - (9*exp(-81/400)*sin(1107/5000))/8 + 3/8, (123*cos(287/1250)*exp(-21/100))/100 - (9*exp(-21/100)*sin(287/1250))/8 + 3/8, (123*cos(1189/5000)*exp(-87/400))/100 - (9*exp(-87/400)*sin(1189/5000))/8 + 3/8, (123*cos(123/500)*exp(-9/40))/100 - (9*exp(-9/40)*sin(123/500))/8 + 3/8, (123*cos(1271/5000)*exp(-93/400))/100 - (9*exp(-93/400)*sin(1271/5000))/8 + 3/8, (123*cos(164/625)*exp(-6/25))/100 - (9*exp(-6/25)*sin(164/625))/8 + 3/8, (123*cos(1353/5000)*exp(-

99/400))/100 - (9*exp(-99/400)*sin(1353/5000))/8 + 3/8, (123*cos(697/2500)*exp(-51/200))/100 - (9*exp(-51/200)*sin(697/2500))/8 + 3/8, (123*cos(287/1000)*exp(-21/80))/100 - (9*exp(-21/80)*sin(287/1000))/8 + 3/8, (123*cos(369/1250)*exp(-27/100))/100 - (9*exp(-27/100)*sin(369/1250))/8 + 3/8, (123*cos(1517/5000)*exp(-111/400))/100 - (9*exp(-111/400)*sin(1517/5000))/8 + 3/8, (123*cos(779/2500)*exp(-57/200))/100 - (9*exp(-57/200)*sin(779/2500))/8 + 3/8, (123*cos(1599/5000)*exp(-117/400))/100 - (9*exp(-117/400)*sin(1599/5000))/8 + 3/8, (123*cos(41/125)*exp(-3/10))/100 - (9*exp(-3/10)*sin(41/125))/8 + 3/8, (123*cos(1681/5000)*exp(-123/400))/100 - (9*exp(-123/400)*sin(1681/5000))/8 + 3/8, (123*cos(861/2500)*exp(-63/200))/100 - (9*exp(-63/200)*sin(861/2500))/8 + 3/8, (123*cos(1763/5000)*exp(-129/400))/100 - (9*exp(-129/400)*sin(1763/5000))/8 + 3/8, (123*cos(451/1250)*exp(-33/100))/100 - (9*exp(-33/100)*sin(451/1250))/8 + 3/8, (123*cos(369/1000)*exp(-27/80))/100 - (9*exp(-27/80)*sin(369/1000))/8 + 3/8, (123*cos(943/2500)*exp(-69/200))/100 - (9*exp(-69/200)*sin(943/2500))/8 + 3/8, (123*cos(1927/5000)*exp(-141/400))/100 - (9*exp(-141/400)*sin(1927/5000))/8 + 3/8, (123*cos(246/625)*exp(-9/25))/100 - (9*exp(-9/25)*sin(246/625))/8 + 3/8, (123*cos(2009/5000)*exp(-147/400))/100 - (9*exp(-147/400)*sin(2009/5000))/8 + 3/8, (123*cos(41/100)*exp(-3/8))/100 - (9*exp(-3/8)*sin(41/100))/8 + 3/8, (123*cos(2091/5000)*exp(-153/400))/100 - (9*exp(-153/400)*sin(2091/5000))/8 + 3/8, (123*cos(533/1250)*exp(-39/100))/100 - (9*exp(-39/100)*sin(533/1250))/8 + 3/8, (123*cos(2173/5000)*exp(-159/400))/100 - (9*exp(-159/400)*sin(2173/5000))/8 + 3/8, (123*cos(1107/2500)*exp(-81/200))/100 - (9*exp(-81/200)*sin(1107/2500))/8 + 3/8, (123*cos(451/1000)*exp(-33/80))/100 - (9*exp(-33/80)*sin(451/1000))/8 + 3/8, (123*cos(287/625)*exp(-21/50))/100 - (9*exp(-21/50)*sin(287/625))/8 + 3/8, (123*cos(2337/5000)*exp(-171/400))/100 - (9*exp(-171/400)*sin(2337/5000))/8 + 3/8, (123*cos(1189/2500)*exp(-87/200))/100 - (9*exp(-87/200)*sin(1189/2500))/8 + 3/8, (123*cos(2419/5000)*exp(-177/400))/100 - (9*exp(-177/400)*sin(2419/5000))/8 + 3/8, (123*cos(123/250)*exp(-9/20))/100 - (9*exp(-9/20)*sin(123/250))/8 + 3/8, (123*cos(2501/5000)*exp(-183/400))/100 - (9*exp(-183/400)*sin(2501/5000))/8 + 3/8, (123*cos(1271/2500)*exp(-93/200))/100 - (9*exp(-93/200)*sin(1271/2500))/8 + 3/8, (123*cos(2583/5000)*exp(-189/400))/100 - (9*exp(-189/400)*sin(2583/5000))/8 + 3/8, (123*cos(328/625)*exp(-12/25))/100 - (9*exp(-12/25)*sin(328/625))/8 + 3/8, (123*cos(533/1000)*exp(-39/80))/100 - (9*exp(-39/80)*sin(533/1000))/8 + 3/8, (123*cos(1353/2500)*exp(-99/200))/100 - (9*exp(-99/200)*sin(1353/2500))/8 + 3/8, (123*cos(2747/5000)*exp(-201/400))/100 - (9*exp(-201/400)*sin(2747/5000))/8 + 3/8, (123*cos(697/1250)*exp(-51/100))/100 - (9*exp(-51/100)*sin(697/1250))/8 + 3/8, (123*cos(2829/5000)*exp(-207/400))/100 - (9*exp(-207/400)*sin(2829/5000))/8 + 3/8, (123*cos(287/500)*exp(-21/40))/100 - (9*exp(-21/40)*sin(287/500))/8 + 3/8, (123*cos(2911/5000)*exp(-213/400))/100 - (9*exp(-213/400)*sin(2911/5000))/8 + 3/8, (123*cos(369/625)*exp(-27/50))/100 - (9*exp(-27/50)*sin(369/625))/8 + 3/8, (123*cos(2993/5000)*exp(-219/400))/100 - (9*exp(-219/400)*sin(2993/5000))/8 + 3/8, (123*cos(1517/2500)*exp(-111/200))/100 - (9*exp(-111/200)*sin(1517/2500))/8 + 3/8, (123*cos(123/200)*exp(-9/16))/100 - (9*exp(-9/16)*sin(123/200))/8 + 3/8, (123*cos(779/1250)*exp(-57/100))/100 - (9*exp(-57/100)*sin(779/1250))/8 + 3/8, (123*cos(3157/5000)*exp(-231/400))/100 - (9*exp(-231/400)*sin(3157/5000))/8 + 3/8, (123*cos(1599/2500)*exp(-117/200))/100 - (9*exp(-117/200)*sin(1599/2500))/8 + 3/8, (123*cos(3239/5000)*exp(-237/400))/100 - (9*exp(-237/400)*sin(3239/5000))/8 + 3/8, (123*cos(82/125)*exp(-3/5))/100 - (9*exp(-3/5)*sin(82/125))/8 +

3/8, (123*cos(3321/5000)*exp(-243/400))/100 - (9*exp(-243/400)*sin(3321/5000))/8 + 3/8,
(123*cos(1681/2500)*exp(-123/200))/100 - (9*exp(-123/200)*sin(1681/2500))/8 + 3/8,
(123*cos(3403/5000)*exp(-249/400))/100 - (9*exp(-249/400)*sin(3403/5000))/8 + 3/8,
(123*cos(861/1250)*exp(-63/100))/100 - (9*exp(-63/100)*sin(861/1250))/8 + 3/8,
(123*cos(697/1000)*exp(-51/80))/100 - (9*exp(-51/80)*sin(697/1000))/8 + 3/8,
(123*cos(1763/2500)*exp(-129/200))/100 - (9*exp(-129/200)*sin(1763/2500))/8 + 3/8,
(123*cos(3567/5000)*exp(-261/400))/100 - (9*exp(-261/400)*sin(3567/5000))/8 + 3/8,
(123*cos(451/625)*exp(-33/50))/100 - (9*exp(-33/50)*sin(451/625))/8 + 3/8,
(123*cos(3649/5000)*exp(-267/400))/100 - (9*exp(-267/400)*sin(3649/5000))/8 + 3/8,
(123*cos(369/500)*exp(-27/40))/100 - (9*exp(-27/40)*sin(369/500))/8 + 3/8,
(123*cos(3731/5000)*exp(-273/400))/100 - (9*exp(-273/400)*sin(3731/5000))/8 + 3/8,
(123*cos(943/1250)*exp(-69/100))/100 - (9*exp(-69/100)*sin(943/1250))/8 + 3/8,
(123*cos(3813/5000)*exp(-279/400))/100 - (9*exp(-279/400)*sin(3813/5000))/8 + 3/8,
(123*cos(1927/2500)*exp(-141/200))/100 - (9*exp(-141/200)*sin(1927/2500))/8 + 3/8,
(123*cos(779/1000)*exp(-57/80))/100 - (9*exp(-57/80)*sin(779/1000))/8 + 3/8,
(123*cos(492/625)*exp(-18/25))/100 - (9*exp(-18/25)*sin(492/625))/8 + 3/8,
(123*cos(3977/5000)*exp(-291/400))/100 - (9*exp(-291/400)*sin(3977/5000))/8 + 3/8,
(123*cos(2009/2500)*exp(-147/200))/100 - (9*exp(-147/200)*sin(2009/2500))/8 + 3/8,
(123*cos(4059/5000)*exp(-297/400))/100 - (9*exp(-297/400)*sin(4059/5000))/8 + 3/8,
(123*cos(41/50)*exp(-3/4))/100 - (9*exp(-3/4)*sin(41/50))/8 + 3/8, (123*cos(4141/5000)*exp(-
303/400))/100 - (9*exp(-303/400)*sin(4141/5000))/8 + 3/8, (123*cos(2091/2500)*exp(-153/200))/100 -
(9*exp(-153/200)*sin(2091/2500))/8 + 3/8, (123*cos(4223/5000)*exp(-309/400))/100 - (9*exp(-
309/400)*sin(4223/5000))/8 + 3/8, (123*cos(533/625)*exp(-39/50))/100 - (9*exp(-
39/50)*sin(533/625))/8 + 3/8, (123*cos(861/1000)*exp(-63/80))/100 - (9*exp(-63/80)*sin(861/1000))/8
+ 3/8, (123*cos(2173/2500)*exp(-159/200))/100 - (9*exp(-159/200)*sin(2173/2500))/8 + 3/8,
(123*cos(4387/5000)*exp(-321/400))/100 - (9*exp(-321/400)*sin(4387/5000))/8 + 3/8,
(123*cos(1107/1250)*exp(-81/100))/100 - (9*exp(-81/100)*sin(1107/1250))/8 + 3/8,
(123*cos(4469/5000)*exp(-327/400))/100 - (9*exp(-327/400)*sin(4469/5000))/8 + 3/8,
(123*cos(451/500)*exp(-33/40))/100 - (9*exp(-33/40)*sin(451/500))/8 + 3/8,
(123*cos(4551/5000)*exp(-333/400))/100 - (9*exp(-333/400)*sin(4551/5000))/8 + 3/8,
(123*cos(574/625)*exp(-21/25))/100 - (9*exp(-21/25)*sin(574/625))/8 + 3/8,
(123*cos(4633/5000)*exp(-339/400))/100 - (9*exp(-339/400)*sin(4633/5000))/8 + 3/8,
(123*cos(2337/2500)*exp(-171/200))/100 - (9*exp(-171/200)*sin(2337/2500))/8 + 3/8,
(123*cos(943/1000)*exp(-69/80))/100 - (9*exp(-69/80)*sin(943/1000))/8 + 3/8,
(123*cos(1189/1250)*exp(-87/100))/100 - (9*exp(-87/100)*sin(1189/1250))/8 + 3/8,
(123*cos(4797/5000)*exp(-351/400))/100 - (9*exp(-351/400)*sin(4797/5000))/8 + 3/8,
(123*cos(2419/2500)*exp(-177/200))/100 - (9*exp(-177/200)*sin(2419/2500))/8 + 3/8,
(123*cos(4879/5000)*exp(-357/400))/100 - (9*exp(-357/400)*sin(4879/5000))/8 + 3/8,
(123*cos(123/125)*exp(-9/10))/100 - (9*exp(-9/10)*sin(123/125))/8 + 3/8, (123*cos(4961/5000)*exp(-
363/400))/100 - (9*exp(-363/400)*sin(4961/5000))/8 + 3/8, (123*cos(2501/2500)*exp(-183/200))/100 -
(9*exp(-183/200)*sin(2501/2500))/8 + 3/8, (123*cos(5043/5000)*exp(-369/400))/100 - (9*exp(-
369/400)*sin(5043/5000))/8 + 3/8, (123*cos(1271/1250)*exp(-93/100))/100 - (9*exp(-
93/100)*sin(1271/1250))/8 + 3/8, (123*cos(41/40)*exp(-15/16))/100 - (9*exp(-15/16)*sin(41/40))/8 +
3/8, (123*cos(2583/2500)*exp(-189/200))/100 - (9*exp(-189/200)*sin(2583/2500))/8 + 3/8,

(123*cos(5207/5000)*exp(-381/400))/100 - (9*exp(-381/400)*sin(5207/5000))/8 + 3/8,
(123*cos(656/625)*exp(-24/25))/100 - (9*exp(-24/25)*sin(656/625))/8 + 3/8,
(123*cos(5289/5000)*exp(-387/400))/100 - (9*exp(-387/400)*sin(5289/5000))/8 + 3/8,
(123*cos(533/500)*exp(-39/40))/100 - (9*exp(-39/40)*sin(533/500))/8 + 3/8,
(123*cos(5371/5000)*exp(-393/400))/100 - (9*exp(-393/400)*sin(5371/5000))/8 + 3/8,
(123*cos(1353/1250)*exp(-99/100))/100 - (9*exp(-99/100)*sin(1353/1250))/8 + 3/8,
(123*cos(5453/5000)*exp(-399/400))/100 - (9*exp(-399/400)*sin(5453/5000))/8 + 3/8,
(123*cos(2747/2500)*exp(-201/200))/100 - (9*exp(-201/200)*sin(2747/2500))/8 + 3/8,
(123*cos(1107/1000)*exp(-81/80))/100 - (9*exp(-81/80)*sin(1107/1000))/8 + 3/8,
(123*cos(697/625)*exp(-51/50))/100 - (9*exp(-51/50)*sin(697/625))/8 + 3/8,
(123*cos(5617/5000)*exp(-411/400))/100 - (9*exp(-411/400)*sin(5617/5000))/8 + 3/8,
(123*cos(2829/2500)*exp(-207/200))/100 - (9*exp(-207/200)*sin(2829/2500))/8 + 3/8,
(123*cos(5699/5000)*exp(-417/400))/100 - (9*exp(-417/400)*sin(5699/5000))/8 + 3/8,
(123*cos(287/250)*exp(-21/20))/100 - (9*exp(-21/20)*sin(287/250))/8 + 3/8,
(123*cos(5781/5000)*exp(-423/400))/100 - (9*exp(-423/400)*sin(5781/5000))/8 + 3/8,
(123*cos(2911/2500)*exp(-213/200))/100 - (9*exp(-213/200)*sin(2911/2500))/8 + 3/8,
(123*cos(5863/5000)*exp(-429/400))/100 - (9*exp(-429/400)*sin(5863/5000))/8 + 3/8,
(123*cos(738/625)*exp(-27/25))/100 - (9*exp(-27/25)*sin(738/625))/8 + 3/8,
(123*cos(1189/1000)*exp(-87/80))/100 - (9*exp(-87/80)*sin(1189/1000))/8 + 3/8,
(123*cos(2993/2500)*exp(-219/200))/100 - (9*exp(-219/200)*sin(2993/2500))/8 + 3/8,
(123*cos(6027/5000)*exp(-441/400))/100 - (9*exp(-441/400)*sin(6027/5000))/8 + 3/8,
(123*cos(1517/1250)*exp(-111/100))/100 - (9*exp(-111/100)*sin(1517/1250))/8 + 3/8,
(123*cos(6109/5000)*exp(-447/400))/100 - (9*exp(-447/400)*sin(6109/5000))/8 + 3/8,
(123*cos(123/100)*exp(-9/8))/100 - (9*exp(-9/8)*sin(123/100))/8 + 3/8, (123*cos(6191/5000)*exp(-453/400))/100 - (9*exp(-453/400)*sin(6191/5000))/8 + 3/8, (123*cos(779/625)*exp(-57/50))/100 - (9*exp(-57/50)*sin(779/625))/8 + 3/8, (123*cos(6273/5000)*exp(-459/400))/100 - (9*exp(-459/400)*sin(6273/5000))/8 + 3/8, (123*cos(3157/2500)*exp(-231/200))/100 - (9*exp(-231/200)*sin(3157/2500))/8 + 3/8, (123*cos(1271/1000)*exp(-93/80))/100 - (9*exp(-93/80)*sin(1271/1000))/8 + 3/8, (123*cos(1599/1250)*exp(-117/100))/100 - (9*exp(-117/100)*sin(1599/1250))/8 + 3/8, (123*cos(6437/5000)*exp(-471/400))/100 - (9*exp(-471/400)*sin(6437/5000))/8 + 3/8, (123*cos(3239/2500)*exp(-237/200))/100 - (9*exp(-237/200)*sin(3239/2500))/8 + 3/8, (123*cos(6519/5000)*exp(-477/400))/100 - (9*exp(-477/400)*sin(6519/5000))/8 + 3/8, (123*cos(164/125)*exp(-6/5))/100 - (9*exp(-6/5)*sin(164/125))/8 + 3/8, (123*cos(6601/5000)*exp(-483/400))/100 - (9*exp(-483/400)*sin(6601/5000))/8 + 3/8,
(123*cos(3321/2500)*exp(-243/200))/100 - (9*exp(-243/200)*sin(3321/2500))/8 + 3/8,
(123*cos(6683/5000)*exp(-489/400))/100 - (9*exp(-489/400)*sin(6683/5000))/8 + 3/8,
(123*cos(1681/1250)*exp(-123/100))/100 - (9*exp(-123/100)*sin(1681/1250))/8 + 3/8,
(123*cos(1353/1000)*exp(-99/80))/100 - (9*exp(-99/80)*sin(1353/1000))/8 + 3/8,
(123*cos(3403/2500)*exp(-249/200))/100 - (9*exp(-249/200)*sin(3403/2500))/8 + 3/8,
(123*cos(6847/5000)*exp(-501/400))/100 - (9*exp(-501/400)*sin(6847/5000))/8 + 3/8,
(123*cos(861/625)*exp(-63/50))/100 - (9*exp(-63/50)*sin(861/625))/8 + 3/8,
(123*cos(6929/5000)*exp(-507/400))/100 - (9*exp(-507/400)*sin(6929/5000))/8 + 3/8,
(123*cos(697/500)*exp(-51/40))/100 - (9*exp(-51/40)*sin(697/500))/8 + 3/8,
(123*cos(7011/5000)*exp(-513/400))/100 - (9*exp(-513/400)*sin(7011/5000))/8 + 3/8,

(123*cos(1763/1250)*exp(-129/100))/100 - (9*exp(-129/100)*sin(1763/1250))/8 + 3/8,
(123*cos(7093/5000)*exp(-519/400))/100 - (9*exp(-519/400)*sin(7093/5000))/8 + 3/8,
(123*cos(3567/2500)*exp(-261/200))/100 - (9*exp(-261/200)*sin(3567/2500))/8 + 3/8,
(123*cos(287/200)*exp(-21/16))/100 - (9*exp(-21/16)*sin(287/200))/8 + 3/8, (123*cos(902/625)*exp(-33/25))/100 - (9*exp(-33/25)*sin(902/625))/8 + 3/8, (123*cos(7257/5000)*exp(-531/400))/100 - (9*exp(-531/400)*sin(7257/5000))/8 + 3/8, (123*cos(3649/2500)*exp(-267/200))/100 - (9*exp(-267/200)*sin(3649/2500))/8 + 3/8, (123*cos(7339/5000)*exp(-537/400))/100 - (9*exp(-537/400)*sin(7339/5000))/8 + 3/8, (123*cos(369/250)*exp(-27/20))/100 - (9*exp(-27/20)*sin(369/250))/8 + 3/8, (123*cos(7421/5000)*exp(-543/400))/100 - (9*exp(-543/400)*sin(7421/5000))/8 + 3/8, (123*cos(3731/2500)*exp(-273/200))/100 - (9*exp(-273/200)*sin(3731/2500))/8 + 3/8, (123*cos(7503/5000)*exp(-549/400))/100 - (9*exp(-549/400)*sin(7503/5000))/8 + 3/8, (123*cos(943/625)*exp(-69/50))/100 - (9*exp(-69/50)*sin(943/625))/8 + 3/8, (123*cos(1517/1000)*exp(-111/80))/100 - (9*exp(-111/80)*sin(1517/1000))/8 + 3/8, (123*cos(3813/2500)*exp(-279/200))/100 - (9*exp(-279/200)*sin(3813/2500))/8 + 3/8, (123*cos(7667/5000)*exp(-561/400))/100 - (9*exp(-561/400)*sin(7667/5000))/8 + 3/8, (123*cos(1927/1250)*exp(-141/100))/100 - (9*exp(-141/100)*sin(1927/1250))/8 + 3/8, (123*cos(7749/5000)*exp(-567/400))/100 - (9*exp(-567/400)*sin(7749/5000))/8 + 3/8, (123*cos(779/500)*exp(-57/40))/100 - (9*exp(-57/40)*sin(779/500))/8 + 3/8, (123*cos(7831/5000)*exp(-573/400))/100 - (9*exp(-573/400)*sin(7831/5000))/8 + 3/8, (123*cos(984/625)*exp(-36/25))/100 - (9*exp(-36/25)*sin(984/625))/8 + 3/8, (123*cos(7913/5000)*exp(-579/400))/100 - (9*exp(-579/400)*sin(7913/5000))/8 + 3/8, (123*cos(3977/2500)*exp(-291/200))/100 - (9*exp(-291/200)*sin(3977/2500))/8 + 3/8, (123*cos(1599/1000)*exp(-117/80))/100 - (9*exp(-117/80)*sin(1599/1000))/8 + 3/8, (123*cos(2009/1250)*exp(-147/100))/100 - (9*exp(-147/100)*sin(2009/1250))/8 + 3/8, (123*cos(8077/5000)*exp(-591/400))/100 - (9*exp(-591/400)*sin(8077/5000))/8 + 3/8, (123*cos(4059/2500)*exp(-297/200))/100 - (9*exp(-297/200)*sin(4059/2500))/8 + 3/8, (123*cos(8159/5000)*exp(-597/400))/100 - (9*exp(-597/400)*sin(8159/5000))/8 + 3/8, (123*cos(41/25)*exp(-3/2))/100 - (9*exp(-3/2)*sin(41/25))/8 + 3/8,
(123*cos(8241/5000)*exp(-603/400))/100 - (9*exp(-603/400)*sin(8241/5000))/8 + 3/8,
(123*cos(4141/2500)*exp(-303/200))/100 - (9*exp(-303/200)*sin(4141/2500))/8 + 3/8,
(123*cos(8323/5000)*exp(-609/400))/100 - (9*exp(-609/400)*sin(8323/5000))/8 + 3/8,
(123*cos(2091/1250)*exp(-153/100))/100 - (9*exp(-153/100)*sin(2091/1250))/8 + 3/8,
(123*cos(1681/1000)*exp(-123/80))/100 - (9*exp(-123/80)*sin(1681/1000))/8 + 3/8,
(123*cos(4223/2500)*exp(-309/200))/100 - (9*exp(-309/200)*sin(4223/2500))/8 + 3/8,
(123*cos(8487/5000)*exp(-621/400))/100 - (9*exp(-621/400)*sin(8487/5000))/8 + 3/8,
(123*cos(1066/625)*exp(-39/25))/100 - (9*exp(-39/25)*sin(1066/625))/8 + 3/8,
(123*cos(8569/5000)*exp(-627/400))/100 - (9*exp(-627/400)*sin(8569/5000))/8 + 3/8,
(123*cos(861/500)*exp(-63/40))/100 - (9*exp(-63/40)*sin(861/500))/8 + 3/8,
(123*cos(8651/5000)*exp(-633/400))/100 - (9*exp(-633/400)*sin(8651/5000))/8 + 3/8,
(123*cos(2173/1250)*exp(-159/100))/100 - (9*exp(-159/100)*sin(2173/1250))/8 + 3/8,
(123*cos(8733/5000)*exp(-639/400))/100 - (9*exp(-639/400)*sin(8733/5000))/8 + 3/8,
(123*cos(4387/2500)*exp(-321/200))/100 - (9*exp(-321/200)*sin(4387/2500))/8 + 3/8,
(123*cos(1763/1000)*exp(-129/80))/100 - (9*exp(-129/80)*sin(1763/1000))/8 + 3/8,
(123*cos(1107/625)*exp(-81/50))/100 - (9*exp(-81/50)*sin(1107/625))/8 + 3/8,

(123*cos(8897/5000)*exp(-651/400))/100 - (9*exp(-651/400)*sin(8897/5000))/8 + 3/8,
(123*cos(4469/2500)*exp(-327/200))/100 - (9*exp(-327/200)*sin(4469/2500))/8 + 3/8,
(123*cos(8979/5000)*exp(-657/400))/100 - (9*exp(-657/400)*sin(8979/5000))/8 + 3/8,
(123*cos(451/250)*exp(-33/20))/100 - (9*exp(-33/20)*sin(451/250))/8 + 3/8,
(123*cos(9061/5000)*exp(-663/400))/100 - (9*exp(-663/400)*sin(9061/5000))/8 + 3/8,
(123*cos(4551/2500)*exp(-333/200))/100 - (9*exp(-333/200)*sin(4551/2500))/8 + 3/8,
(123*cos(9143/5000)*exp(-669/400))/100 - (9*exp(-669/400)*sin(9143/5000))/8 + 3/8,
(123*cos(1148/625)*exp(-42/25))/100 - (9*exp(-42/25)*sin(1148/625))/8 + 3/8,
(123*cos(369/200)*exp(-27/16))/100 - (9*exp(-27/16)*sin(369/200))/8 + 3/8,
(123*cos(4633/2500)*exp(-339/200))/100 - (9*exp(-339/200)*sin(4633/2500))/8 + 3/8,
(123*cos(9307/5000)*exp(-681/400))/100 - (9*exp(-681/400)*sin(9307/5000))/8 + 3/8,
(123*cos(2337/1250)*exp(-171/100))/100 - (9*exp(-171/100)*sin(2337/1250))/8 + 3/8,
(123*cos(9389/5000)*exp(-687/400))/100 - (9*exp(-687/400)*sin(9389/5000))/8 + 3/8,
(123*cos(943/500)*exp(-69/40))/100 - (9*exp(-69/40)*sin(943/500))/8 + 3/8,
(123*cos(9471/5000)*exp(-693/400))/100 - (9*exp(-693/400)*sin(9471/5000))/8 + 3/8,
(123*cos(1189/625)*exp(-87/50))/100 - (9*exp(-87/50)*sin(1189/625))/8 + 3/8,
(123*cos(9553/5000)*exp(-699/400))/100 - (9*exp(-699/400)*sin(9553/5000))/8 + 3/8,
(123*cos(4797/2500)*exp(-351/200))/100 - (9*exp(-351/200)*sin(4797/2500))/8 + 3/8,
(123*cos(1927/1000)*exp(-141/80))/100 - (9*exp(-141/80)*sin(1927/1000))/8 + 3/8,
(123*cos(2419/1250)*exp(-177/100))/100 - (9*exp(-177/100)*sin(2419/1250))/8 + 3/8,
(123*cos(9717/5000)*exp(-711/400))/100 - (9*exp(-711/400)*sin(9717/5000))/8 + 3/8,
(123*cos(4879/2500)*exp(-357/200))/100 - (9*exp(-357/200)*sin(4879/2500))/8 + 3/8,
(123*cos(9799/5000)*exp(-717/400))/100 - (9*exp(-717/400)*sin(9799/5000))/8 + 3/8,
(123*cos(246/125)*exp(-9/5))/100 - (9*exp(-9/5)*sin(246/125))/8 + 3/8, (123*cos(9881/5000)*exp(-723/400))/100 - (9*exp(-723/400)*sin(9881/5000))/8 + 3/8, (123*cos(4961/2500)*exp(-363/200))/100 - (9*exp(-363/200)*sin(4961/2500))/8 + 3/8, (123*cos(9963/5000)*exp(-729/400))/100 - (9*exp(-729/400)*sin(9963/5000))/8 + 3/8, (123*cos(2501/1250)*exp(-183/100))/100 - (9*exp(-183/100)*sin(2501/1250))/8 + 3/8, (123*cos(2009/1000)*exp(-147/80))/100 - (9*exp(-147/80)*sin(2009/1000))/8 + 3/8, (123*cos(5043/2500)*exp(-369/200))/100 - (9*exp(-369/200)*sin(5043/2500))/8 + 3/8, (123*cos(10127/5000)*exp(-741/400))/100 - (9*exp(-741/400)*sin(10127/5000))/8 + 3/8, (123*cos(1271/625)*exp(-93/50))/100 - (9*exp(-93/50)*sin(1271/625))/8 + 3/8, (123*cos(10209/5000)*exp(-747/400))/100 - (9*exp(-747/400)*sin(10209/5000))/8 + 3/8, (123*cos(41/20)*exp(-15/8))/100 - (9*exp(-15/8)*sin(41/20))/8 + 3/8]

a =

- (369*cos((41*t)/50)*exp(-(3*t)/4))/200 - (3297*sin((41*t)/50)*exp(-(3*t)/4))/20000

an =

[-369/200, - (369*cos(41/5000)*exp(-3/400))/200 - (3297*exp(-3/400)*sin(41/5000))/20000, - (369*cos(41/2500)*exp(-3/200))/200 - (3297*exp(-3/200)*sin(41/2500))/20000, - (369*cos(123/5000)*exp(-9/400))/200 - (3297*exp(-9/400)*sin(123/5000))/20000, - (369*cos(41/1250)*exp(-3/100))/200 - (3297*exp(-3/100)*sin(41/1250))/20000, - (369*cos(41/1000)*exp(-3/80))/200 - (3297*exp(-3/80)*sin(41/1000))/20000, - (369*cos(123/2500)*exp(-9/200))/200 - (3297*exp(-9/200)*sin(123/2500))/20000, - (369*cos(287/5000)*exp(-21/400))/200 - (3297*exp(-21/400)*sin(287/5000))/20000, - (369*cos(41/625)*exp(-3/50))/200 - (3297*exp(-3/50)*sin(41/625))/20000, - (369*cos(369/5000)*exp(-27/400))/200 - (3297*exp(-27/400)*sin(369/5000))/20000, - (369*cos(41/500)*exp(-3/40))/200 - (3297*exp(-3/40)*sin(41/500))/20000, - (369*cos(451/5000)*exp(-33/400))/200 - (3297*exp(-33/400)*sin(451/5000))/20000, - (369*cos(123/1250)*exp(-9/100))/200 - (3297*exp(-9/100)*sin(123/1250))/20000, - (369*cos(533/5000)*exp(-39/400))/200 - (3297*exp(-39/400)*sin(533/5000))/20000, - (369*cos(287/2500)*exp(-21/200))/200 - (3297*exp(-21/200)*sin(287/2500))/20000, - (369*cos(123/1000)*exp(-9/80))/200 - (3297*exp(-9/80)*sin(123/1000))/20000, - (369*cos(82/625)*exp(-3/25))/200 - (3297*exp(-3/25)*sin(82/625))/20000, - (369*cos(697/5000)*exp(-51/400))/200 - (3297*exp(-51/400)*sin(697/5000))/20000, - (369*cos(369/2500)*exp(-27/200))/200 - (3297*exp(-27/200)*sin(369/2500))/20000, - (369*cos(779/5000)*exp(-57/400))/200 - (3297*exp(-57/400)*sin(779/5000))/20000, - (369*cos(41/250)*exp(-3/20))/200 - (3297*exp(-3/20)*sin(41/250))/20000, - (369*cos(861/5000)*exp(-63/400))/200 - (3297*exp(-63/400)*sin(861/5000))/20000, - (369*cos(451/2500)*exp(-33/200))/200 - (3297*exp(-33/200)*sin(451/2500))/20000, - (369*cos(943/5000)*exp(-69/400))/200 - (3297*exp(-69/400)*sin(943/5000))/20000, - (369*cos(123/625)*exp(-9/50))/200 - (3297*exp(-9/50)*sin(123/625))/20000, - (369*cos(41/200)*exp(-3/16))/200 - (3297*exp(-3/16)*sin(41/200))/20000, - (369*cos(533/2500)*exp(-39/200))/200 - (3297*exp(-39/200)*sin(533/2500))/20000, - (369*cos(1107/5000)*exp(-81/400))/200 - (3297*exp(-81/400)*sin(1107/5000))/20000, - (369*cos(287/1250)*exp(-21/100))/200 - (3297*exp(-21/100)*sin(287/1250))/20000, - (369*cos(1189/5000)*exp(-87/400))/200 - (3297*exp(-87/400)*sin(1189/5000))/20000, - (369*cos(123/500)*exp(-9/40))/200 - (3297*exp(-9/40)*sin(123/500))/20000, - (369*cos(1271/5000)*exp(-93/400))/200 - (3297*exp(-93/400)*sin(1271/5000))/20000, - (369*cos(164/625)*exp(-6/25))/200 - (3297*exp(-6/25)*sin(164/625))/20000, - (369*cos(1353/5000)*exp(-99/400))/200 - (3297*exp(-99/400)*sin(1353/5000))/20000, - (369*cos(697/2500)*exp(-51/200))/200 - (3297*exp(-51/200)*sin(697/2500))/20000, - (369*cos(287/1000)*exp(-21/80))/200 - (3297*exp(-21/80)*sin(287/1000))/20000, - (369*cos(369/1250)*exp(-27/100))/200 - (3297*exp(-27/100)*sin(369/1250))/20000, - (369*cos(1517/5000)*exp(-111/400))/200 - (3297*exp(-111/400)*sin(1517/5000))/20000, - (369*cos(779/2500)*exp(-57/200))/200 - (3297*exp(-57/200)*sin(779/2500))/20000, - (369*cos(1599/5000)*exp(-117/400))/200 - (3297*exp(-117/400)*sin(1599/5000))/20000, - (369*cos(41/125)*exp(-3/10))/200 - (3297*exp(-3/10)*sin(41/125))/20000, - (369*cos(1681/5000)*exp(-123/400))/200 - (3297*exp(-

123/400)*sin(1681/5000))/20000, - (369*cos(861/2500)*exp(-63/200))/200 - (3297*exp(-63/200)*sin(861/2500))/20000, - (369*cos(1763/5000)*exp(-129/400))/200 - (3297*exp(-129/400)*sin(1763/5000))/20000, - (369*cos(451/1250)*exp(-33/100))/200 - (3297*exp(-33/100)*sin(451/1250))/20000, - (369*cos(369/1000)*exp(-27/80))/200 - (3297*exp(-27/80)*sin(369/1000))/20000, - (369*cos(943/2500)*exp(-69/200))/200 - (3297*exp(-69/200)*sin(943/2500))/20000, - (369*cos(1927/5000)*exp(-141/400))/200 - (3297*exp(-141/400)*sin(1927/5000))/20000, - (369*cos(246/625)*exp(-9/25))/200 - (3297*exp(-9/25)*sin(246/625))/20000, - (369*cos(2009/5000)*exp(-147/400))/200 - (3297*exp(-147/400)*sin(2009/5000))/20000, - (369*cos(41/100)*exp(-3/8))/200 - (3297*exp(-3/8)*sin(41/100))/20000, - (369*cos(2091/5000)*exp(-153/400))/200 - (3297*exp(-153/400)*sin(2091/5000))/20000, - (369*cos(533/1250)*exp(-39/100))/200 - (3297*exp(-39/100)*sin(533/1250))/20000, - (369*cos(2173/5000)*exp(-159/400))/200 - (3297*exp(-159/400)*sin(2173/5000))/20000, - (369*cos(1107/2500)*exp(-81/200))/200 - (3297*exp(-81/200)*sin(1107/2500))/20000, - (369*cos(451/1000)*exp(-33/80))/200 - (3297*exp(-33/80)*sin(451/1000))/20000, - (369*cos(287/625)*exp(-21/50))/200 - (3297*exp(-21/50)*sin(287/625))/20000, - (369*cos(2337/5000)*exp(-171/400))/200 - (3297*exp(-171/400)*sin(2337/5000))/20000, - (369*cos(1189/2500)*exp(-87/200))/200 - (3297*exp(-87/200)*sin(1189/2500))/20000, - (369*cos(2419/5000)*exp(-177/400))/200 - (3297*exp(-177/400)*sin(2419/5000))/20000, - (369*cos(123/250)*exp(-9/20))/200 - (3297*exp(-9/20)*sin(123/250))/20000, - (369*cos(2501/5000)*exp(-183/400))/200 - (3297*exp(-183/400)*sin(2501/5000))/20000, - (369*cos(1271/2500)*exp(-93/200))/200 - (3297*exp(-93/200)*sin(1271/2500))/20000, - (369*cos(2583/5000)*exp(-189/400))/200 - (3297*exp(-189/400)*sin(2583/5000))/20000, - (369*cos(328/625)*exp(-12/25))/200 - (3297*exp(-12/25)*sin(328/625))/20000, - (369*cos(533/1000)*exp(-39/80))/200 - (3297*exp(-39/80)*sin(533/1000))/20000, - (369*cos(1353/2500)*exp(-99/200))/200 - (3297*exp(-99/200)*sin(1353/2500))/20000, - (369*cos(2747/5000)*exp(-201/400))/200 - (3297*exp(-201/400)*sin(2747/5000))/20000, - (369*cos(697/1250)*exp(-51/100))/200 - (3297*exp(-51/100)*sin(697/1250))/20000, - (369*cos(2829/5000)*exp(-207/400))/200 - (3297*exp(-207/400)*sin(2829/5000))/20000, - (369*cos(287/500)*exp(-21/40))/200 - (3297*exp(-21/40)*sin(287/500))/20000, - (369*cos(2911/5000)*exp(-213/400))/200 - (3297*exp(-213/400)*sin(2911/5000))/20000, - (369*cos(369/625)*exp(-27/50))/200 - (3297*exp(-27/50)*sin(369/625))/20000, - (369*cos(2993/5000)*exp(-219/400))/200 - (3297*exp(-219/400)*sin(2993/5000))/20000, - (369*cos(1517/2500)*exp(-111/200))/200 - (3297*exp(-111/200)*sin(1517/2500))/20000, - (369*cos(123/200)*exp(-9/16))/200 - (3297*exp(-9/16)*sin(123/200))/20000, - (369*cos(779/1250)*exp(-57/100))/200 - (3297*exp(-57/100)*sin(779/1250))/20000, - (369*cos(3157/5000)*exp(-231/400))/200 - (3297*exp(-231/400)*sin(3157/5000))/20000, - (369*cos(1599/2500)*exp(-117/200))/200 - (3297*exp(-117/200)*sin(1599/2500))/20000, - (369*cos(3239/5000)*exp(-237/400))/200 - (3297*exp(-237/400)*sin(3239/5000))/20000, - (369*cos(82/125)*exp(-3/5))/200 - (3297*exp(-3/5)*sin(82/125))/20000, - (369*cos(3321/5000)*exp(-243/400))/200 - (3297*exp(-243/400)*sin(3321/5000))/20000, - (369*cos(1681/2500)*exp(-123/200))/200 - (3297*exp(-123/200)*sin(1681/2500))/20000, - (369*cos(3403/5000)*exp(-249/400))/200 - (3297*exp(-249/400)*sin(3403/5000))/20000, - (369*cos(861/1250)*exp(-63/100))/200 - (3297*exp(-63/100)*sin(861/1250))/20000, - (369*cos(697/1000)*exp(-51/80))/200 - (3297*exp(-

51/80)*sin(697/1000))/20000, - (369*cos(1763/2500)*exp(-129/200))/200 - (3297*exp(-129/200)*sin(1763/2500))/20000, - (369*cos(3567/5000)*exp(-261/400))/200 - (3297*exp(-261/400)*sin(3567/5000))/20000, - (369*cos(451/625)*exp(-33/50))/200 - (3297*exp(-33/50)*sin(451/625))/20000, - (369*cos(3649/5000)*exp(-267/400))/200 - (3297*exp(-267/400)*sin(3649/5000))/20000, - (369*cos(369/500)*exp(-27/40))/200 - (3297*exp(-27/40)*sin(369/500))/20000, - (369*cos(3731/5000)*exp(-273/400))/200 - (3297*exp(-273/400)*sin(3731/5000))/20000, - (369*cos(943/1250)*exp(-69/100))/200 - (3297*exp(-69/100)*sin(943/1250))/20000, - (369*cos(3813/5000)*exp(-279/400))/200 - (3297*exp(-279/400)*sin(3813/5000))/20000, - (369*cos(1927/2500)*exp(-141/200))/200 - (3297*exp(-141/200)*sin(1927/2500))/20000, - (369*cos(779/1000)*exp(-57/80))/200 - (3297*exp(-57/80)*sin(779/1000))/20000, - (369*cos(492/625)*exp(-18/25))/200 - (3297*exp(-18/25)*sin(492/625))/20000, - (369*cos(3977/5000)*exp(-291/400))/200 - (3297*exp(-291/400)*sin(3977/5000))/20000, - (369*cos(2009/2500)*exp(-147/200))/200 - (3297*exp(-147/200)*sin(2009/2500))/20000, - (369*cos(4059/5000)*exp(-297/400))/200 - (3297*exp(-297/400)*sin(4059/5000))/20000, - (369*cos(41/50)*exp(-3/4))/200 - (3297*exp(-3/4)*sin(41/50))/20000, - (369*cos(4141/5000)*exp(-303/400))/200 - (3297*exp(-303/400)*sin(4141/5000))/20000, - (369*cos(2091/2500)*exp(-153/200))/200 - (3297*exp(-153/200)*sin(2091/2500))/20000, - (369*cos(4223/5000)*exp(-309/400))/200 - (3297*exp(-309/400)*sin(4223/5000))/20000, - (369*cos(533/625)*exp(-39/50))/200 - (3297*exp(-39/50)*sin(533/625))/20000, - (369*cos(861/1000)*exp(-63/80))/200 - (3297*exp(-63/80)*sin(861/1000))/20000, - (369*cos(2173/2500)*exp(-159/200))/200 - (3297*exp(-159/200)*sin(2173/2500))/20000, - (369*cos(4387/5000)*exp(-321/400))/200 - (3297*exp(-321/400)*sin(4387/5000))/20000, - (369*cos(1107/1250)*exp(-81/100))/200 - (3297*exp(-81/100)*sin(1107/1250))/20000, - (369*cos(4469/5000)*exp(-327/400))/200 - (3297*exp(-327/400)*sin(4469/5000))/20000, - (369*cos(451/500)*exp(-33/40))/200 - (3297*exp(-33/40)*sin(451/500))/20000, - (369*cos(4551/5000)*exp(-333/400))/200 - (3297*exp(-333/400)*sin(4551/5000))/20000, - (369*cos(574/625)*exp(-21/25))/200 - (3297*exp(-21/25)*sin(574/625))/20000, - (369*cos(4633/5000)*exp(-339/400))/200 - (3297*exp(-339/400)*sin(4633/5000))/20000, - (369*cos(2337/2500)*exp(-171/200))/200 - (3297*exp(-171/200)*sin(2337/2500))/20000, - (369*cos(943/1000)*exp(-69/80))/200 - (3297*exp(-69/80)*sin(943/1000))/20000, - (369*cos(1189/1250)*exp(-87/100))/200 - (3297*exp(-87/100)*sin(1189/1250))/20000, - (369*cos(4797/5000)*exp(-351/400))/200 - (3297*exp(-351/400)*sin(4797/5000))/20000, - (369*cos(2419/2500)*exp(-177/200))/200 - (3297*exp(-177/200)*sin(2419/2500))/20000, - (369*cos(4879/5000)*exp(-357/400))/200 - (3297*exp(-357/400)*sin(4879/5000))/20000, - (369*cos(123/125)*exp(-9/10))/200 - (3297*exp(-9/10)*sin(123/125))/20000, - (369*cos(4961/5000)*exp(-363/400))/200 - (3297*exp(-363/400)*sin(4961/5000))/20000, - (369*cos(2501/2500)*exp(-183/200))/200 - (3297*exp(-183/200)*sin(2501/2500))/20000, - (369*cos(5043/5000)*exp(-369/400))/200 - (3297*exp(-369/400)*sin(5043/5000))/20000, - (369*cos(1271/1250)*exp(-93/100))/200 - (3297*exp(-93/100)*sin(1271/1250))/20000, - (369*cos(41/40)*exp(-15/16))/200 - (3297*exp(-15/16)*sin(41/40))/20000, - (369*cos(2583/2500)*exp(-189/200))/200 - (3297*exp(-189/200)*sin(2583/2500))/20000, - (369*cos(5207/5000)*exp(-381/400))/200 - (3297*exp(-381/400)*sin(5207/5000))/20000, - (369*cos(656/625)*exp(-24/25))/200 - (3297*exp(-24/25)*sin(656/625))/20000, - (369*cos(5289/5000)*exp(-387/400))/200 - (3297*exp(-

387/400)*sin(5289/5000))/20000, - (369*cos(533/500)*exp(-39/40))/200 - (3297*exp(-39/40)*sin(533/500))/20000, - (369*cos(5371/5000)*exp(-393/400))/200 - (3297*exp(-393/400)*sin(5371/5000))/20000, - (369*cos(1353/1250)*exp(-99/100))/200 - (3297*exp(-99/100)*sin(1353/1250))/20000, - (369*cos(5453/5000)*exp(-399/400))/200 - (3297*exp(-399/400)*sin(5453/5000))/20000, - (369*cos(2747/2500)*exp(-201/200))/200 - (3297*exp(-201/200)*sin(2747/2500))/20000, - (369*cos(1107/1000)*exp(-81/80))/200 - (3297*exp(-81/80)*sin(1107/1000))/20000, - (369*cos(697/625)*exp(-51/50))/200 - (3297*exp(-51/50)*sin(697/625))/20000, - (369*cos(5617/5000)*exp(-411/400))/200 - (3297*exp(-411/400)*sin(5617/5000))/20000, - (369*cos(2829/2500)*exp(-207/200))/200 - (3297*exp(-207/200)*sin(2829/2500))/20000, - (369*cos(5699/5000)*exp(-417/400))/200 - (3297*exp(-417/400)*sin(5699/5000))/20000, - (369*cos(287/250)*exp(-21/20))/200 - (3297*exp(-21/20)*sin(287/250))/20000, - (369*cos(5781/5000)*exp(-423/400))/200 - (3297*exp(-423/400)*sin(5781/5000))/20000, - (369*cos(2911/2500)*exp(-213/200))/200 - (3297*exp(-213/200)*sin(2911/2500))/20000, - (369*cos(5863/5000)*exp(-429/400))/200 - (3297*exp(-429/400)*sin(5863/5000))/20000, - (369*cos(738/625)*exp(-27/25))/200 - (3297*exp(-27/25)*sin(738/625))/20000, - (369*cos(1189/1000)*exp(-87/80))/200 - (3297*exp(-87/80)*sin(1189/1000))/20000, - (369*cos(2993/2500)*exp(-219/200))/200 - (3297*exp(-219/200)*sin(2993/2500))/20000, - (369*cos(6027/5000)*exp(-441/400))/200 - (3297*exp(-441/400)*sin(6027/5000))/20000, - (369*cos(1517/1250)*exp(-111/100))/200 - (3297*exp(-111/100)*sin(1517/1250))/20000, - (369*cos(6109/5000)*exp(-447/400))/200 - (3297*exp(-447/400)*sin(6109/5000))/20000, - (369*cos(123/100)*exp(-9/8))/200 - (3297*exp(-9/8)*sin(123/100))/20000, - (369*cos(6191/5000)*exp(-453/400))/200 - (3297*exp(-453/400)*sin(6191/5000))/20000, - (369*cos(779/625)*exp(-57/50))/200 - (3297*exp(-57/50)*sin(779/625))/20000, - (369*cos(6273/5000)*exp(-459/400))/200 - (3297*exp(-459/400)*sin(6273/5000))/20000, - (369*cos(3157/2500)*exp(-231/200))/200 - (3297*exp(-231/200)*sin(3157/2500))/20000, - (369*cos(1271/1000)*exp(-93/80))/200 - (3297*exp(-93/80)*sin(1271/1000))/20000, - (369*cos(1599/1250)*exp(-117/100))/200 - (3297*exp(-117/100)*sin(1599/1250))/20000, - (369*cos(6437/5000)*exp(-471/400))/200 - (3297*exp(-471/400)*sin(6437/5000))/20000, - (369*cos(3239/2500)*exp(-237/200))/200 - (3297*exp(-237/200)*sin(3239/2500))/20000, - (369*cos(6519/5000)*exp(-477/400))/200 - (3297*exp(-477/400)*sin(6519/5000))/20000, - (369*cos(164/125)*exp(-6/5))/200 - (3297*exp(-6/5)*sin(164/125))/20000, - (369*cos(6601/5000)*exp(-483/400))/200 - (3297*exp(-483/400)*sin(6601/5000))/20000, - (369*cos(3321/2500)*exp(-243/200))/200 - (3297*exp(-243/200)*sin(3321/2500))/20000, - (369*cos(6683/5000)*exp(-489/400))/200 - (3297*exp(-489/400)*sin(6683/5000))/20000, - (369*cos(1681/1250)*exp(-123/100))/200 - (3297*exp(-123/100)*sin(1681/1250))/20000, - (369*cos(1353/1000)*exp(-99/80))/200 - (3297*exp(-99/80)*sin(1353/1000))/20000, - (369*cos(3403/2500)*exp(-249/200))/200 - (3297*exp(-249/200)*sin(3403/2500))/20000, - (369*cos(6847/5000)*exp(-501/400))/200 - (3297*exp(-501/400)*sin(6847/5000))/20000, - (369*cos(861/625)*exp(-63/50))/200 - (3297*exp(-63/50)*sin(861/625))/20000, - (369*cos(6929/5000)*exp(-507/400))/200 - (3297*exp(-507/400)*sin(6929/5000))/20000, - (369*cos(697/500)*exp(-51/40))/200 - (3297*exp(-51/40)*sin(697/500))/20000, - (369*cos(7011/5000)*exp(-513/400))/200 - (3297*exp(-513/400)*sin(7011/5000))/20000, - (369*cos(1763/1250)*exp(-129/100))/200 - (3297*exp(-129/100)*sin(1763/1250))/20000, - (369*cos(7093/5000)*exp(-519/400))/200 - (3297*exp(-

519/400)*sin(7093/5000))/20000, - (369*cos(3567/2500)*exp(-261/200))/200 - (3297*exp(-261/200)*sin(3567/2500))/20000, - (369*cos(287/200)*exp(-21/16))/200 - (3297*exp(-21/16)*sin(287/200))/20000, - (369*cos(902/625)*exp(-33/25))/200 - (3297*exp(-33/25)*sin(902/625))/20000, - (369*cos(7257/5000)*exp(-531/400))/200 - (3297*exp(-531/400)*sin(7257/5000))/20000, - (369*cos(3649/2500)*exp(-267/200))/200 - (3297*exp(-267/200)*sin(3649/2500))/20000, - (369*cos(7339/5000)*exp(-537/400))/200 - (3297*exp(-537/400)*sin(7339/5000))/20000, - (369*cos(369/250)*exp(-27/20))/200 - (3297*exp(-27/20)*sin(369/250))/20000, - (369*cos(7421/5000)*exp(-543/400))/200 - (3297*exp(-543/400)*sin(7421/5000))/20000, - (369*cos(3731/2500)*exp(-273/200))/200 - (3297*exp(-273/200)*sin(3731/2500))/20000, - (369*cos(7503/5000)*exp(-549/400))/200 - (3297*exp(-549/400)*sin(7503/5000))/20000, - (369*cos(943/625)*exp(-69/50))/200 - (3297*exp(-69/50)*sin(943/625))/20000, - (369*cos(1517/1000)*exp(-111/80))/200 - (3297*exp(-111/80)*sin(1517/1000))/20000, - (369*cos(3813/2500)*exp(-279/200))/200 - (3297*exp(-279/200)*sin(3813/2500))/20000, - (369*cos(7667/5000)*exp(-561/400))/200 - (3297*exp(-561/400)*sin(7667/5000))/20000, - (369*cos(1927/1250)*exp(-141/100))/200 - (3297*exp(-141/100)*sin(1927/1250))/20000, - (369*cos(7749/5000)*exp(-567/400))/200 - (3297*exp(-567/400)*sin(7749/5000))/20000, - (369*cos(779/500)*exp(-57/40))/200 - (3297*exp(-57/40)*sin(779/500))/20000, - (369*cos(7831/5000)*exp(-573/400))/200 - (3297*exp(-573/400)*sin(7831/5000))/20000, - (369*cos(984/625)*exp(-36/25))/200 - (3297*exp(-36/25)*sin(984/625))/20000, - (369*cos(7913/5000)*exp(-579/400))/200 - (3297*exp(-579/400)*sin(7913/5000))/20000, - (369*cos(3977/2500)*exp(-291/200))/200 - (3297*exp(-291/200)*sin(3977/2500))/20000, - (369*cos(1599/1000)*exp(-117/80))/200 - (3297*exp(-117/80)*sin(1599/1000))/20000, - (369*cos(2009/1250)*exp(-147/100))/200 - (3297*exp(-147/100)*sin(2009/1250))/20000, - (369*cos(8077/5000)*exp(-591/400))/200 - (3297*exp(-591/400)*sin(8077/5000))/20000, - (369*cos(4059/2500)*exp(-297/200))/200 - (3297*exp(-297/200)*sin(4059/2500))/20000, - (369*cos(8159/5000)*exp(-597/400))/200 - (3297*exp(-597/400)*sin(8159/5000))/20000, - (369*cos(41/25)*exp(-3/2))/200 - (3297*exp(-3/2)*sin(41/25))/20000, - (369*cos(8241/5000)*exp(-603/400))/200 - (3297*exp(-603/400)*sin(8241/5000))/20000, - (369*cos(4141/2500)*exp(-303/200))/200 - (3297*exp(-303/200)*sin(4141/2500))/20000, - (369*cos(8323/5000)*exp(-609/400))/200 - (3297*exp(-609/400)*sin(8323/5000))/20000, - (369*cos(2091/1250)*exp(-153/100))/200 - (3297*exp(-153/100)*sin(2091/1250))/20000, - (369*cos(1681/1000)*exp(-123/80))/200 - (3297*exp(-123/80)*sin(1681/1000))/20000, - (369*cos(4223/2500)*exp(-309/200))/200 - (3297*exp(-309/200)*sin(4223/2500))/20000, - (369*cos(8487/5000)*exp(-621/400))/200 - (3297*exp(-621/400)*sin(8487/5000))/20000, - (369*cos(1066/625)*exp(-39/25))/200 - (3297*exp(-39/25)*sin(1066/625))/20000, - (369*cos(8569/5000)*exp(-627/400))/200 - (3297*exp(-627/400)*sin(8569/5000))/20000, - (369*cos(861/500)*exp(-63/40))/200 - (3297*exp(-63/40)*sin(861/500))/20000, - (369*cos(8651/5000)*exp(-633/400))/200 - (3297*exp(-633/400)*sin(8651/5000))/20000, - (369*cos(2173/1250)*exp(-159/100))/200 - (3297*exp(-159/100)*sin(2173/1250))/20000, - (369*cos(8733/5000)*exp(-639/400))/200 - (3297*exp(-639/400)*sin(8733/5000))/20000, - (369*cos(4387/2500)*exp(-321/200))/200 - (3297*exp(-321/200)*sin(4387/2500))/20000, - (369*cos(1763/1000)*exp(-129/80))/200 - (3297*exp(-129/80)*sin(1763/1000))/20000, - (369*cos(1107/625)*exp(-81/50))/200 - (3297*exp(-81/50)*sin(1107/625))/20000, - (369*cos(8897/5000)*exp(-651/400))/200 - (3297*exp(-

651/400)*sin(8897/5000))/20000, - (369*cos(4469/2500)*exp(-327/200))/200 - (3297*exp(-327/200)*sin(4469/2500))/20000, - (369*cos(8979/5000)*exp(-657/400))/200 - (3297*exp(-657/400)*sin(8979/5000))/20000, - (369*cos(451/250)*exp(-33/20))/200 - (3297*exp(-33/20)*sin(451/250))/20000, - (369*cos(9061/5000)*exp(-663/400))/200 - (3297*exp(-663/400)*sin(9061/5000))/20000, - (369*cos(4551/2500)*exp(-333/200))/200 - (3297*exp(-333/200)*sin(4551/2500))/20000, - (369*cos(9143/5000)*exp(-669/400))/200 - (3297*exp(-669/400)*sin(9143/5000))/20000, - (369*cos(1148/625)*exp(-42/25))/200 - (3297*exp(-42/25)*sin(1148/625))/20000, - (369*cos(369/200)*exp(-27/16))/200 - (3297*exp(-27/16)*sin(369/200))/20000, - (369*cos(4633/2500)*exp(-339/200))/200 - (3297*exp(-339/200)*sin(4633/2500))/20000, - (369*cos(9307/5000)*exp(-681/400))/200 - (3297*exp(-681/400)*sin(9307/5000))/20000, - (369*cos(2337/1250)*exp(-171/100))/200 - (3297*exp(-171/100)*sin(2337/1250))/20000, - (369*cos(9389/5000)*exp(-687/400))/200 - (3297*exp(-687/400)*sin(9389/5000))/20000, - (369*cos(943/500)*exp(-69/40))/200 - (3297*exp(-69/40)*sin(943/500))/20000, - (369*cos(9471/5000)*exp(-693/400))/200 - (3297*exp(-693/400)*sin(9471/5000))/20000, - (369*cos(1189/625)*exp(-87/50))/200 - (3297*exp(-87/50)*sin(1189/625))/20000, - (369*cos(9553/5000)*exp(-699/400))/200 - (3297*exp(-699/400)*sin(9553/5000))/20000, - (369*cos(4797/2500)*exp(-351/200))/200 - (3297*exp(-351/200)*sin(4797/2500))/20000, - (369*cos(1927/1000)*exp(-141/80))/200 - (3297*exp(-141/80)*sin(1927/1000))/20000, - (369*cos(2419/1250)*exp(-177/100))/200 - (3297*exp(-177/100)*sin(2419/1250))/20000, - (369*cos(9717/5000)*exp(-711/400))/200 - (3297*exp(-711/400)*sin(9717/5000))/20000, - (369*cos(4879/2500)*exp(-357/200))/200 - (3297*exp(-357/200)*sin(4879/2500))/20000, - (369*cos(9799/5000)*exp(-717/400))/200 - (3297*exp(-717/400)*sin(9799/5000))/20000, - (369*cos(246/125)*exp(-9/5))/200 - (3297*exp(-9/5)*sin(246/125))/20000, - (369*cos(9881/5000)*exp(-723/400))/200 - (3297*exp(-723/400)*sin(9881/5000))/20000, - (369*cos(4961/2500)*exp(-363/200))/200 - (3297*exp(-363/200)*sin(4961/2500))/20000, - (369*cos(9963/5000)*exp(-729/400))/200 - (3297*exp(-729/400)*sin(9963/5000))/20000, - (369*cos(2501/1250)*exp(-183/100))/200 - (3297*exp(-183/100)*sin(2501/1250))/20000, - (369*cos(2009/1000)*exp(-147/80))/200 - (3297*exp(-147/80)*sin(2009/1000))/20000, - (369*cos(5043/2500)*exp(-369/200))/200 - (3297*exp(-369/200)*sin(5043/2500))/20000, - (369*cos(10127/5000)*exp(-741/400))/200 - (3297*exp(-741/400)*sin(10127/5000))/20000, - (369*cos(1271/625)*exp(-93/50))/200 - (3297*exp(-93/50)*sin(1271/625))/20000, - (369*cos(10209/5000)*exp(-747/400))/200 - (3297*exp(-747/400)*sin(10209/5000))/20000, - (369*cos(41/20)*exp(-15/8))/200 - (3297*exp(-15/8)*sin(41/20))/20000]

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3.

```
commandwindow
clear
clc
format short g
close all
syms x
Q=5*((sin(5*x))^5)
```

```
a=vpa(pi)
X=a*(int((Q^2),0,a))
X=double(X)
```

SOLUTION

Q =

5*sin(5*x)^5

a =

3.1415926535897932384626433832795

X =

60.7211989520146086900950l2987519

X =

   60.721

1. `commandwindow`
```
clear
clc
A=[0 10 4 -2; -3 -17 1 2; 1 1 1 0; 8 -34 16 -10];
M=[-4;2;6;4];
Aq=inv(A)
wxyz=Aq*M
```

SOLUTION

Aq =

  -0.17857   -0.10204   0.57143   0.015306

   0.035714 -0.015306   0.035714   -0.010204

   0.14286   0.11735   0.39286 -0.005102

  -0.035714   0.15816   0.96429 -0.061224

wxyz =

     4

 -9.7145e-17

     2

     6

>>