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Department: Civil Engineering

ENG 281 Mid Semester Test

### Question 4

#### (a) MATLAB code

```
commandwindow
```

```
clear
```

```
clc
```

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

```
B=[-4; 2; 6; 4]
```

```
I=inv(A)
```

```
X=I*B
```

Output obtained

A =

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

B =

```
-4
2
6
```

4

I =

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

X =

```
4.0000  
-0.0000  
2.0000  
6.0000
```

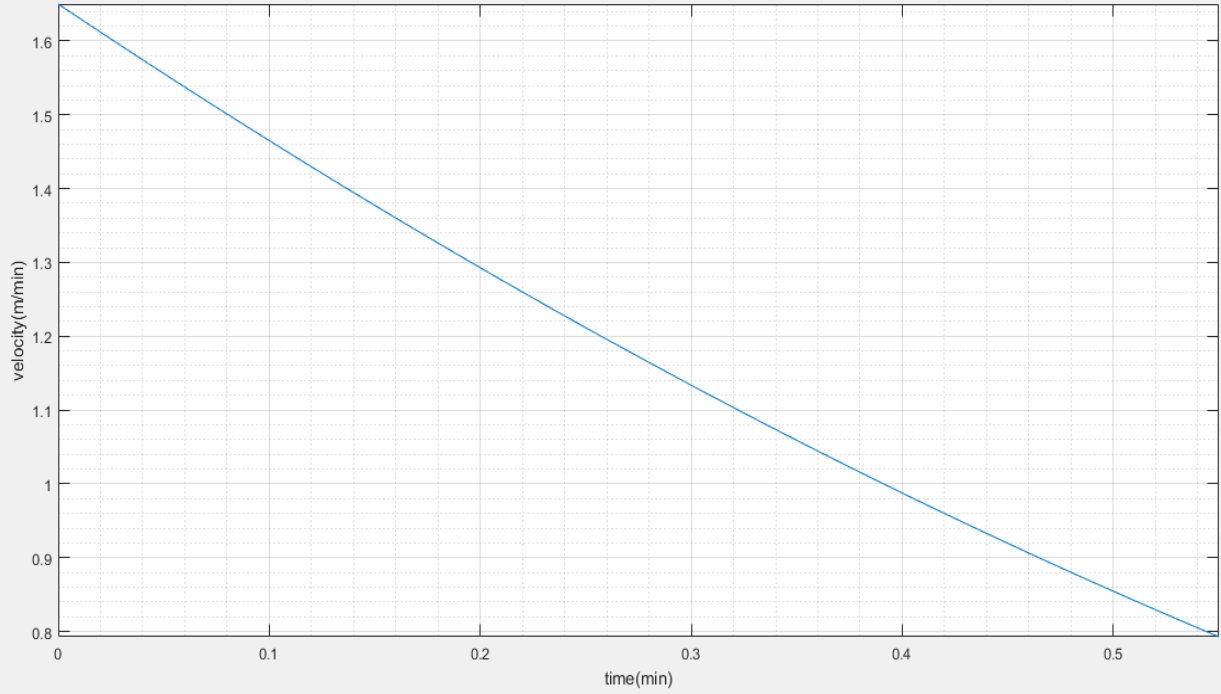
## (b) MATLAB code

```
commandwindow  
clear  
clc  
close all  
syms t  
d=1.5*exp(-0.75*t)*sin(0.85*t)+(0.375*t)  
tn=(0:0.001:0.55)  
v=diff(d)  
vn=subs(v,tn)  
figure(1)
```

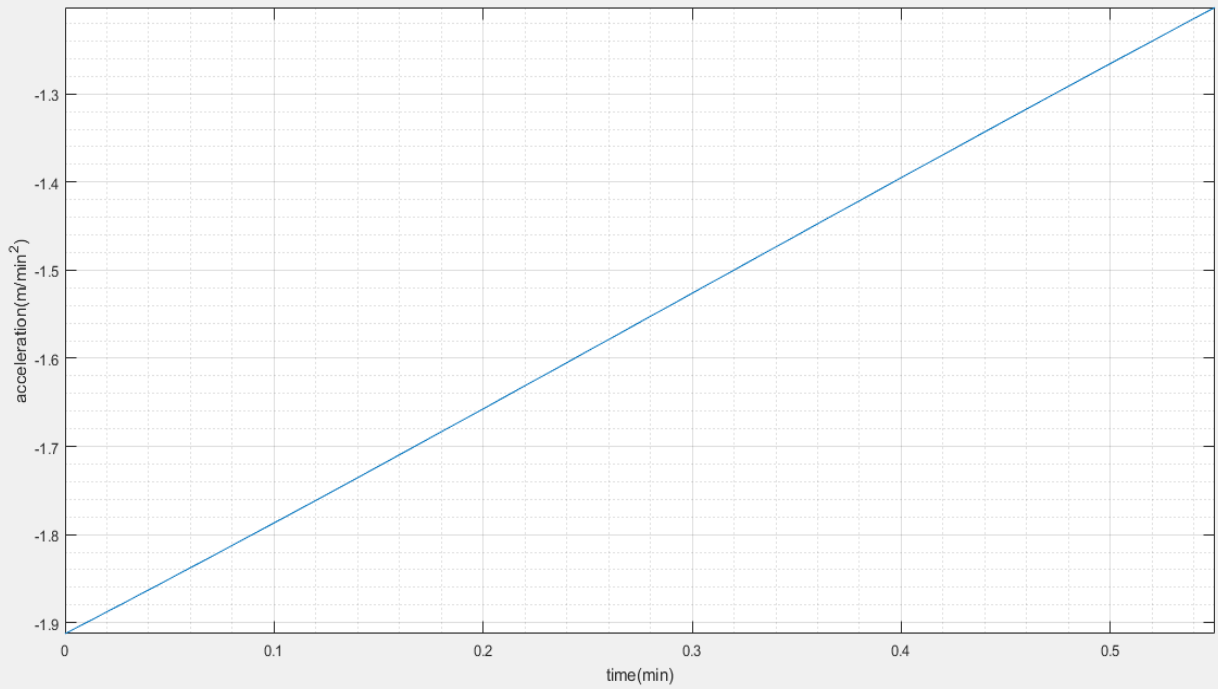
```
plot(tn,vn)
xlabel('time(min)')
ylabel('velocity(m/min)')
grid on
grid minor
axis tight
a=diff(v)
an=subs(a,tn)
figure(2)
plot(tn,an)
xlabel('time(min)')
ylabel('acceleration(m/min^2)')
grid on
grid minor
axis tight
figure(3)
plot(tn,vn,tn,an)
xlabel('time(min)')
ylabel('variable')
legend('velocity(m/min)','acceleration(m/min^2)','location','best')
axis tight
grid on
grid minor
```

## Output obtained

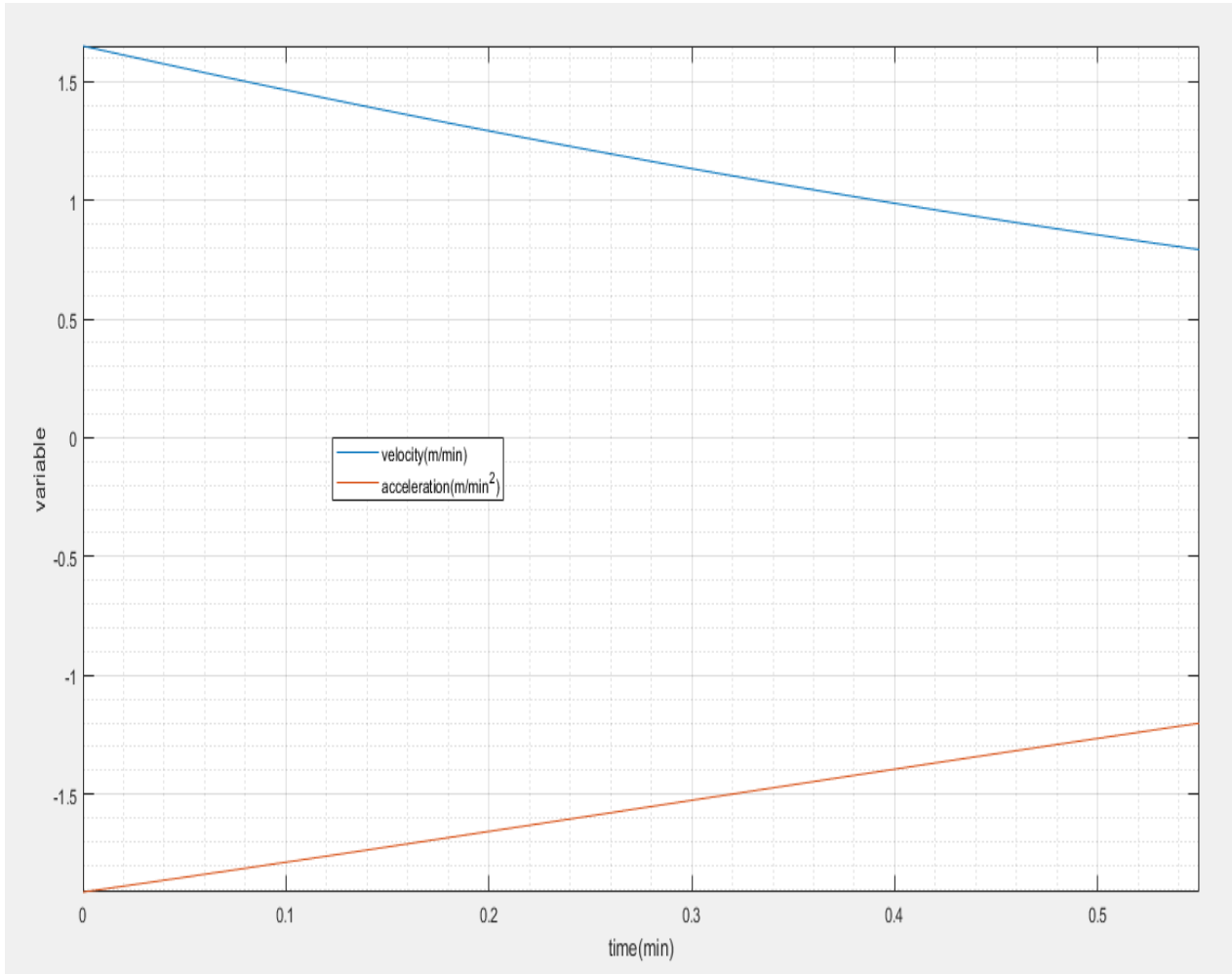
**Figure(1)**



**Figure(2)**



Figure(3)



d =

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

tn =

Columns 1 through 9

0 0.001 0.002 0.003 0.004 0.005 0.006 0.007 0.008

Columns 10 through 18

0.009 0.01 0.011 0.012 0.013 0.014 0.015 0.016 0.017

Columns 19 through 27

0.018 0.019 0.02 0.021 0.022 0.023 0.024 0.025 0.026

Columns 28 through 36

0.027 0.028 0.029 0.03 0.031 0.032 0.033 0.034 0.035

Columns 37 through 45

0.036 0.037 0.038 0.039 0.04 0.041 0.042 0.043 0.044

Columns 46 through 54

0.045 0.046 0.047 0.048 0.049 0.05 0.051 0.052 0.053

Columns 55 through 63

0.054 0.055 0.056 0.057 0.058 0.059 0.06 0.061 0.062

Columns 64 through 72

0.063 0.064 0.065 0.066 0.067 0.068 0.069 0.07 0.071

Columns 73 through 81

0.072 0.073 0.074 0.075 0.076 0.077 0.078 0.079 0.08

Columns 82 through 90

0.081 0.082 0.083 0.084 0.085 0.086 0.087 0.088 0.089

Columns 91 through 99

0.09 0.091 0.092 0.093 0.094 0.095 0.096 0.097 0.098

Columns 100 through 108

0.099 0.1 0.101 0.102 0.103 0.104 0.105 0.106 0.107

Columns 109 through 117

0.108 0.109 0.11 0.111 0.112 0.113 0.114 0.115 0.116

Columns 118 through 126

0.117 0.118 0.119 0.12 0.121 0.122 0.123 0.124 0.125

Columns 127 through 135

0.126 0.127 0.128 0.129 0.13 0.131 0.132 0.133 0.134

Columns 136 through 144

0.135 0.136 0.137 0.138 0.139 0.14 0.141 0.142 0.143

Columns 145 through 153

0.144 0.145 0.146 0.147 0.148 0.149 0.15 0.151 0.152

Columns 154 through 162

0.153 0.154 0.155 0.156 0.157 0.158 0.159 0.16 0.161

Columns 163 through 171

0.162 0.163 0.164 0.165 0.166 0.167 0.168 0.169 0.17

Columns 172 through 180

0.171 0.172 0.173 0.174 0.175 0.176 0.177 0.178 0.179

Columns 181 through 189

0.18 0.181 0.182 0.183 0.184 0.185 0.186 0.187 0.188

Columns 190 through 198

0.189 0.19 0.191 0.192 0.193 0.194 0.195 0.196 0.197

Columns 199 through 207

0.198 0.199 0.2 0.201 0.202 0.203 0.204 0.205 0.206

Columns 208 through 216

0.207 0.208 0.209 0.21 0.211 0.212 0.213 0.214 0.215

Columns 217 through 225

0.216 0.217 0.218 0.219 0.22 0.221 0.222 0.223 0.224

Columns 226 through 234

0.225 0.226 0.227 0.228 0.229 0.23 0.231 0.232 0.233

Columns 235 through 243

0.234 0.235 0.236 0.237 0.238 0.239 0.24 0.241 0.242

Columns 244 through 252

0.243 0.244 0.245 0.246 0.247 0.248 0.249 0.25 0.251

Columns 253 through 261

0.252 0.253 0.254 0.255 0.256 0.257 0.258 0.259 0.26



Columns 262 through 270

0.261 0.262 0.263 0.264 0.265 0.266 0.267 0.268 0.269

Columns 271 through 279

0.27 0.271 0.272 0.273 0.274 0.275 0.276 0.277 0.278

Columns 280 through 288

0.279 0.28 0.281 0.282 0.283 0.284 0.285 0.286 0.287

Columns 289 through 297

0.288 0.289 0.29 0.291 0.292 0.293 0.294 0.295 0.296

Columns 298 through 306

0.297 0.298 0.299 0.3 0.301 0.302 0.303 0.304 0.305

Columns 307 through 315

0.306 0.307 0.308 0.309 0.31 0.311 0.312 0.313 0.314

Columns 316 through 324

0.315 0.316 0.317 0.318 0.319 0.32 0.321 0.322 0.323

Columns 325 through 333

0.324 0.325 0.326 0.327 0.328 0.329 0.33 0.331 0.332

Columns 334 through 342

0.333 0.334 0.335 0.336 0.337 0.338 0.339 0.34 0.341

Columns 343 through 351

0.342 0.343 0.344 0.345 0.346 0.347 0.348 0.349 0.35

Columns 352 through 360

0.351 0.352 0.353 0.354 0.355 0.356 0.357 0.358 0.359

Columns 361 through 369

0.36 0.361 0.362 0.363 0.364 0.365 0.366 0.367 0.368

Columns 370 through 378

0.369 0.37 0.371 0.372 0.373 0.374 0.375 0.376 0.377

Columns 379 through 387

0.378 0.379 0.38 0.381 0.382 0.383 0.384 0.385 0.386

Columns 388 through 396

0.387 0.388 0.389 0.39 0.391 0.392 0.393 0.394 0.395

Columns 397 through 405

0.396 0.397 0.398 0.399 0.4 0.401 0.402 0.403 0.404

Columns 406 through 414

0.405 0.406 0.407 0.408 0.409 0.41 0.411 0.412 0.413

Columns 415 through 423

0.414 0.415 0.416 0.417 0.418 0.419 0.42 0.421 0.422

Columns 424 through 432

0.423 0.424 0.425 0.426 0.427 0.428 0.429 0.43 0.431

Columns 433 through 441

0.432 0.433 0.434 0.435 0.436 0.437 0.438 0.439 0.44

Columns 442 through 450

0.441 0.442 0.443 0.444 0.445 0.446 0.447 0.448 0.449

Columns 451 through 459

0.45 0.451 0.452 0.453 0.454 0.455 0.456 0.457 0.458

Columns 460 through 468

0.459 0.46 0.461 0.462 0.463 0.464 0.465 0.466 0.467

Columns 469 through 477

0.468 0.469 0.47 0.471 0.472 0.473 0.474 0.475 0.476

Columns 478 through 486

0.477 0.478 0.479 0.48 0.481 0.482 0.483 0.484 0.485

Columns 487 through 495

0.486 0.487 0.488 0.489 0.49 0.491 0.492 0.493 0.494

Columns 496 through 504

0.495 0.496 0.497 0.498 0.499 0.5 0.501 0.502 0.503

Columns 505 through 513

0.504 0.505 0.506 0.507 0.508 0.509 0.51 0.511 0.512

Columns 514 through 522

0.513 0.514 0.515 0.516 0.517 0.518 0.519 0.52 0.521

Columns 523 through 531

0.522 0.523 0.524 0.525 0.526 0.527 0.528 0.529 0.53

Columns 532 through 540

0.531 0.532 0.533 0.534 0.535 0.536 0.537 0.538 0.539

Columns 541 through 549

0.54 0.541 0.542 0.543 0.544 0.545 0.546 0.547 0.548

Columns 550 through 551

0.549 0.55

V =

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

vn =

$$\begin{aligned} & [ 33/20, (51*\cos(17/20000)*\exp(-3/4000))/40 - (9*\exp(-3/4000)*\sin(17/20000))/8 + 3/8, (51*\cos(17/10000)*\exp(-3/2000))/40 - (9*\exp(-3/2000)*\sin(17/10000))/8 + 3/8, (51*\cos(51/20000)*\exp(-9/4000))/40 - (9*\exp(-9/4000)*\sin(51/20000))/8 + 3/8, (51*\cos(17/5000)*\exp(-3/1000))/40 - (9*\exp(-3/1000)*\sin(17/5000))/8 + 3/8, (51*\cos(17/4000)*\exp(-3/800))/40 - (9*\exp(-3/800)*\sin(17/4000))/8 + 3/8, \\ & (51*\cos(51/10000)*\exp(-9/2000))/40 - (9*\exp(-9/2000)*\sin(51/10000))/8 + 3/8, (51*\cos(119/20000)*\exp(-21/4000))/40 - (9*\exp(-21/4000)*\sin(119/20000))/8 + 3/8, (51*\cos(17/2500)*\exp(-3/500))/40 - (9*\exp(-3/500)*\sin(17/2500))/8 + 3/8, (51*\cos(153/20000)*\exp(-27/4000))/40 - (9*\exp(-27/4000)*\sin(153/20000))/8 + 3/8, (51*\cos(17/2000)*\exp(-3/400))/40 - (9*\exp(-3/400)*\sin(17/2000))/8 + 3/8, \\ & (51*\cos(187/20000)*\exp(-33/4000))/40 - (9*\exp(-33/4000)*\sin(187/20000))/8 + 3/8, (51*\cos(51/5000)*\exp(-9/1000))/40 - (9*\exp(-9/1000)*\sin(51/5000))/8 + 3/8, (51*\cos(221/20000)*\exp(-39/4000))/40 - (9*\exp(-39/4000)*\sin(221/20000))/8 + 3/8, \\ & (51*\cos(119/10000)*\exp(-21/2000))/40 - (9*\exp(-21/2000)*\sin(119/10000))/8 + 3/8, (51*\cos(51/4000)*\exp(-9/800))/40 - (9*\exp(-9/800)*\sin(51/4000))/8 + 3/8, (51*\cos(17/1250)*\exp(-3/250))/40 - (9*\exp(-3/250)*\sin(17/1250))/8 + 3/8, (51*\cos(289/20000)*\exp(-51/4000))/40 - (9*\exp(-51/4000)*\sin(289/20000))/8 + 3/8, (51*\cos(153/10000)*\exp(-27/2000))/40 - (9*\exp(-27/2000)*\sin(153/10000))/8 + 3/8, \\ & (51*\cos(323/20000)*\exp(-57/4000))/40 - (9*\exp(-57/4000)*\sin(323/20000))/8 + 3/8, (51*\cos(17/1000)*\exp(-3/200))/40 - (9*\exp(-3/200)*\sin(17/1000))/8 + 3/8, (51*\cos(357/20000)*\exp(-63/4000))/40 - (9*\exp(-63/4000)*\sin(357/20000))/8 + 3/8, \\ & (51*\cos(187/10000)*\exp(-33/2000))/40 - (9*\exp(-33/2000)*\sin(187/10000))/8 + 3/8, (51*\cos(391/20000)*\exp(-69/4000))/40 - (9*\exp(-69/4000)*\sin(391/20000))/8 + 3/8, (51*\cos(51/2500)*\exp(-9/500))/40 - (9*\exp(-9/500)*\sin(51/2500))/8 + 3/8, (51*\cos(17/800)*\exp(-3/160))/40 - (9*\exp(-3/160)*\sin(17/800))/8 + 3/8, \\ & (51*\cos(221/10000)*\exp(-39/2000))/40 - (9*\exp(-39/2000)*\sin(221/10000))/8 + 3/8, (51*\cos(459/20000)*\exp(-81/4000))/40 - (9*\exp(-81/4000)*\sin(459/20000))/8 + 3/8, (51*\cos(119/5000)*\exp(-21/1000))/40 - (9*\exp(-21/1000)*\sin(119/5000))/8 + 3/8, \\ & (51*\cos(493/20000)*\exp(-87/4000))/40 - (9*\exp(-87/4000)*\sin(493/20000))/8 + 3/8, (51*\cos(51/2000)*\exp(-9/400))/40 - (9*\exp(-9/400)*\sin(51/2000))/8 + 3/8, (51*\cos(527/20000)*\exp(-93/4000))/40 - (9*\exp(-93/4000)*\sin(527/20000))/8 + 3/8 \end{aligned}$$

93/4000)\*sin(527/20000))/8 + 3/8, (51\*cos(17/625)\*exp(-3/125))/40 - (9\*exp(-3/125)\*sin(17/625))/8 + 3/8, (51\*cos(561/20000)\*exp(-99/4000))/40 - (9\*exp(-99/4000)\*sin(561/20000))/8 + 3/8, (51\*cos(289/10000)\*exp(-51/20000))/40 - (9\*exp(-51/20000)\*sin(289/10000))/8 + 3/8, (51\*cos(119/4000)\*exp(-21/800))/40 - (9\*exp(-21/800)\*sin(119/4000))/8 + 3/8, (51\*cos(153/5000)\*exp(-27/1000))/40 - (9\*exp(-27/1000)\*sin(153/5000))/8 + 3/8, (51\*cos(629/20000)\*exp(-111/4000))/40 - (9\*exp(-111/4000)\*sin(629/20000))/8 + 3/8, (51\*cos(323/10000)\*exp(-57/2000))/40 - (9\*exp(-57/2000)\*sin(323/10000))/8 + 3/8, (51\*cos(663/20000)\*exp(-117/4000))/40 - (9\*exp(-117/4000)\*sin(663/20000))/8 + 3/8, (51\*cos(17/500)\*exp(-3/100))/40 - (9\*exp(-3/100)\*sin(17/500))/8 + 3/8, (51\*cos(697/20000)\*exp(-123/4000))/40 - (9\*exp(-123/4000)\*sin(697/20000))/8 + 3/8, (51\*cos(357/10000)\*exp(-63/2000))/40 - (9\*exp(-63/2000)\*sin(357/10000))/8 + 3/8, (51\*cos(731/20000)\*exp(-129/4000))/40 - (9\*exp(-129/4000)\*sin(731/20000))/8 + 3/8, (51\*cos(187/5000)\*exp(-33/1000))/40 - (9\*exp(-33/1000)\*sin(187/5000))/8 + 3/8, (51\*cos(153/4000)\*exp(-27/800))/40 - (9\*exp(-27/800)\*sin(153/4000))/8 + 3/8, (51\*cos(391/10000)\*exp(-69/2000))/40 - (9\*exp(-69/2000)\*sin(391/10000))/8 + 3/8, (51\*cos(799/20000)\*exp(-141/4000))/40 - (9\*exp(-141/4000)\*sin(799/20000))/8 + 3/8, (51\*cos(51/1250)\*exp(-9/250))/40 - (9\*exp(-9/250)\*sin(51/1250))/8 + 3/8, (51\*cos(833/20000)\*exp(-147/4000))/40 - (9\*exp(-147/4000)\*sin(833/20000))/8 + 3/8, (51\*cos(17/400)\*exp(-3/80))/40 - (9\*exp(-3/80)\*sin(17/400))/8 + 3/8, (51\*cos(867/20000)\*exp(-153/4000))/40 - (9\*exp(-153/4000)\*sin(867/20000))/8 + 3/8, (51\*cos(221/5000)\*exp(-39/1000))/40 - (9\*exp(-39/1000)\*sin(221/5000))/8 + 3/8, (51\*cos(901/20000)\*exp(-159/4000))/40 - (9\*exp(-159/4000)\*sin(901/20000))/8 + 3/8, (51\*cos(459/10000)\*exp(-81/2000))/40 - (9\*exp(-81/2000)\*sin(459/10000))/8 + 3/8, (51\*cos(187/4000)\*exp(-33/800))/40 - (9\*exp(-33/800)\*sin(187/4000))/8 + 3/8, (51\*cos(119/2500)\*exp(-21/500))/40 - (9\*exp(-21/500)\*sin(119/2500))/8 + 3/8, (51\*cos(969/20000)\*exp(-171/4000))/40 - (9\*exp(-171/4000)\*sin(969/20000))/8 + 3/8, (51\*cos(493/10000)\*exp(-87/2000))/40 - (9\*exp(-87/2000)\*sin(493/10000))/8 + 3/8, (51\*cos(1003/20000)\*exp(-177/4000))/40 - (9\*exp(-177/4000)\*sin(1003/20000))/8 + 3/8, (51\*cos(51/1000)\*exp(-9/200))/40 - (9\*exp(-9/200)\*sin(51/1000))/8 + 3/8, (51\*cos(1037/20000)\*exp(-183/4000))/40 - (9\*exp(-183/4000)\*sin(1037/20000))/8 + 3/8, (51\*cos(527/10000)\*exp(-93/2000))/40 - (9\*exp(-93/2000)\*sin(527/10000))/8 + 3/8, (51\*cos(1071/20000)\*exp(-189/4000))/40 - (9\*exp(-189/4000)\*sin(1071/20000))/8 + 3/8, (51\*cos(34/625)\*exp(-6/125))/40 - (9\*exp(-6/125)\*sin(34/625))/8 + 3/8, (51\*cos(221/4000)\*exp(-39/800))/40 - (9\*exp(-39/800)\*sin(221/4000))/8 + 3/8, (51\*cos(561/10000)\*exp(-99/2000))/40 - (9\*exp(-99/2000)\*sin(561/10000))/8 + 3/8, (51\*cos(1139/20000)\*exp(-201/4000))/40 - (9\*exp(-201/4000)\*sin(1139/20000))/8 + 3/8, (51\*cos(289/5000)\*exp(-51/1000))/40 - (9\*exp(-51/1000)\*sin(289/5000))/8 + 3/8, (51\*cos(1173/20000)\*exp(-207/4000))/40 - (9\*exp(-207/4000)\*sin(1173/20000))/8 + 3/8, (51\*cos(119/2000)\*exp(-21/400))/40 - (9\*exp(-21/400)\*sin(119/2000))/8 + 3/8, (51\*cos(1207/20000)\*exp(-213/4000))/40 - (9\*exp(-213/4000)\*sin(1207/20000))/8 + 3/8, (51\*cos(153/2500)\*exp(-27/500))/40 - (9\*exp(-27/500)\*sin(153/2500))/8 + 3/8, (51\*cos(1241/20000)\*exp(-219/4000))/40 - (9\*exp(-219/4000)\*sin(1241/20000))/8 + 3/8, (51\*cos(629/10000)\*exp(-111/2000))/40 - (9\*exp(-111/2000)\*sin(629/10000))/8 + 3/8, (51\*cos(51/800)\*exp(-9/160))/40 - (9\*exp(-9/160)\*sin(51/800))/8 + 3/8, (51\*cos(323/5000)\*exp(-57/1000))/40 - (9\*exp(-57/1000)\*sin(323/5000))/8 + 3/8, (51\*cos(1309/20000)\*exp(-231/4000))/40 - (9\*exp(-231/4000)\*sin(1309/20000))/8 + 3/8, (51\*cos(663/10000)\*exp(-117/2000))/40 - (9\*exp(-117/2000)\*sin(663/10000))/8 + 3/8, (51\*cos(1343/20000)\*exp(-237/4000))/40 - (9\*exp(-237/4000)\*sin(1343/20000))/8 + 3/8, (51\*cos(17/250)\*exp(-3/50))/40 - (9\*exp(-3/50)\*sin(17/250))/8 + 3/8, (51\*cos(1377/20000)\*exp(-243/4000))/40 - (9\*exp(-243/4000)\*sin(1377/20000))/8 + 3/8, (51\*cos(697/10000)\*exp(-123/2000))/40 - (9\*exp(-123/2000)\*sin(697/10000))/8 + 3/8, (51\*cos(1411/20000)\*exp(-249/4000))/40 - (9\*exp(-249/4000)\*sin(1411/20000))/8 + 3/8, (51\*cos(357/5000)\*exp(-63/1000))/40 - (9\*exp(-63/1000)\*sin(357/5000))/8 + 3/8, (51\*cos(289/4000)\*exp(-51/800))/40 - (9\*exp(-51/800)\*sin(289/4000))/8 + 3/8, (51\*cos(731/10000)\*exp(-129/2000))/40 - (9\*exp(-129/2000)\*sin(731/10000))/8 + 3/8, (51\*cos(1479/20000)\*exp(-261/4000))/40 - (9\*exp(-261/4000)\*sin(1479/20000))/8 + 3/8, (51\*cos(187/2500)\*exp(-33/500))/40 - (9\*exp(-33/500)\*sin(187/2500))/8 + 3/8, (51\*cos(1513/20000)\*exp(-267/4000))/40 - (9\*exp(-267/4000)\*sin(1513/20000))/8 + 3/8, (51\*cos(153/2000)\*exp(-27/400))/40 - (9\*exp(-27/400)\*sin(153/2000))/8 + 3/8, (51\*cos(1547/20000)\*exp(-273/4000))/40 - (9\*exp(-273/4000)\*sin(1547/20000))/8 + 3/8, (51\*cos(391/5000)\*exp(-69/1000))/40 - (9\*exp(-69/1000)\*sin(391/5000))/8 + 3/8, (51\*cos(1581/20000)\*exp(-279/4000))/40 - (9\*exp(-279/4000)\*sin(1581/20000))/8 + 3/8, (51\*cos(799/10000)\*exp(-141/2000))/40 - (9\*exp(-141/2000)\*sin(799/10000))/8 + 3/8, (51\*cos(323/4000)\*exp(-57/800))/40 - (9\*exp(-57/800)\*sin(323/4000))/8 + 3/8, (51\*cos(51/625)\*exp(-9/125))/40 - (9\*exp(-9/125)\*sin(51/625))/8 + 3/8, (51\*cos(1649/20000)\*exp(-291/4000))/40 - (9\*exp(-291/4000)\*sin(1649/20000))/8 + 3/8, (51\*cos(833/10000)\*exp(-147/2000))/40 - (9\*exp(-147/2000)\*sin(833/10000))/8 + 3/8, (51\*cos(1683/20000)\*exp(-297/4000))/40 - (9\*exp(-297/4000)\*sin(1683/20000))/8 + 3/8, (51\*cos(17/200)\*exp(-3/40))/40 - (9\*exp(-3/40)\*sin(17/200))/8 + 3/8, (51\*cos(1717/20000)\*exp(-303/4000))/40 - (9\*exp(-303/4000)\*sin(1717/20000))/8 + 3/8, (51\*cos(867/10000)\*exp(-153/2000))/40 - (9\*exp(-153/2000)\*sin(867/10000))/8 + 3/8, (51\*cos(1751/20000)\*exp(-309/4000))/40 - (9\*exp(-309/4000)\*sin(1751/20000))/8 + 3/8, (51\*cos(221/2500)\*exp(-39/500))/40 - (9\*exp(-39/500)\*sin(221/2500))/8 + 3/8, (51\*cos(357/4000)\*exp(-63/800))/40 - (9\*exp(-63/800)\*sin(357/4000))/8 + 3/8, (51\*cos(901/10000)\*exp(-159/2000))/40 - (9\*exp(-159/2000)\*sin(901/10000))/8 + 3/8, (51\*cos(1819/20000)\*exp(-321/4000))/40 - (9\*exp(-321/4000)\*sin(1819/20000))/8 + 3/8, (51\*cos(459/5000)\*exp(-81/1000))/40 - (9\*exp(-81/1000)\*sin(459/5000))/8 + 3/8, (51\*cos(1853/20000)\*exp(-327/4000))/40 - (9\*exp(-327/4000)\*sin(1853/20000))/8 + 3/8, (51\*cos(187/2000)\*exp(-33/400))/40 - (9\*exp(-33/400)\*sin(187/2000))/8 + 3/8, (51\*cos(1887/20000)\*exp(-333/4000))/40 - (9\*exp(-333/4000)\*sin(1887/20000))/8 + 3/8, (51\*cos(119/1250)\*exp(-21/250))/40 - (9\*exp(-21/250)\*sin(119/1250))/8 + 3/8, (51\*cos(1921/20000)\*exp(-339/4000))/40 - (9\*exp(-339/4000)\*sin(1921/20000))/8 + 3/8, (51\*cos(969/10000)\*exp(-171/2000))/40 - (9\*exp(-171/2000)\*sin(969/10000))/8 + 3/8, (51\*cos(391/4000)\*exp(-69/800))/40 - (9\*exp(-69/800)\*sin(391/4000))/8 + 3/8, (51\*cos(493/5000)\*exp(-87/1000))/40 - (9\*exp(-87/1000)\*sin(493/5000))/8 + 3/8, (51\*cos(1989/20000)\*exp(-351/4000))/40 - (9\*exp(-351/4000)\*sin(1989/20000))/8 + 3/8, (51\*cos(1003/10000)\*exp(-177/2000))/40 - (9\*exp(-177/2000)\*sin(1003/10000))/8 + 3/8, (51\*cos(2023/20000)\*exp(-357/4000))/40 - (9\*exp(-357/4000)\*sin(2023/20000))/8 + 3/8, (51\*cos(51/500)\*exp(-9/100))/40 - (9\*exp(-9/100)\*sin(51/500))/8 + 3/8, (51\*cos(2057/20000)\*exp(-363/4000))/40 - (9\*exp(-363/4000)\*sin(2057/20000))/8 + 3/8, (51\*cos(1037/10000)\*exp(-183/2000))/40 - (9\*exp(-183/2000)\*sin(1037/10000))/8 + 3/8, (51\*cos(2091/20000)\*exp(-369/4000))/40 - (9\*exp(-369/4000)\*sin(2091/20000))/8 + 3/8, (51\*cos(527/5000)\*exp(-93/1000))/40 - (9\*exp(-93/1000)\*sin(527/5000))/8 + 3/8, (51\*cos(17/160)\*exp(-3/32))/40 - (9\*exp(-3/32)\*sin(17/160))/8 + 3/8, (51\*cos(1071/10000)\*exp(-189/2000))/40 - (9\*exp(-189/2000)\*sin(1071/10000))/8 + 3/8, (51\*cos(2159/20000)\*exp(-381/4000))/40 - (9\*exp(-381/4000)\*sin(2159/20000))/8 + 3/8, (51\*cos(68/625)\*exp(-12/125))/40 - (9\*exp(-12/125)\*sin(68/625))/8 + 3/8, (51\*cos(2193/20000)\*exp(-387/4000))/40 - (9\*exp(-387/4000)\*sin(2193/20000))/8 + 3/8, (51\*cos(221/2000)\*exp(-39/400))/40 - (9\*exp(-39/400)\*sin(221/2000))/8 + 3/8, (51\*cos(2227/20000)\*exp(-393/4000))/40 - (9\*exp(-

$393/4000) \cdot \sin(2227/20000))/8 + 3/8, (51 \cdot \cos(561/5000) \cdot \exp(-99/1000))/40 - (9 \cdot \exp(-99/1000) \cdot \sin(561/5000))/8 + 3/8,$   
 $(51 \cdot \cos(2261/20000) \cdot \exp(-399/4000))/40 - (9 \cdot \exp(-399/4000) \cdot \sin(2261/20000))/8 + 3/8, (51 \cdot \cos(1139/10000) \cdot \exp(-201/2000))/40 -$   
 $(9 \cdot \exp(-201/2000) \cdot \sin(1139/10000))/8 + 3/8, (51 \cdot \cos(459/4000) \cdot \exp(-81/800))/40 - (9 \cdot \exp(-81/800) \cdot \sin(459/4000))/8 + 3/8,$   
 $(51 \cdot \cos(289/2500) \cdot \exp(-51/500))/40 - (9 \cdot \exp(-51/500) \cdot \sin(289/2500))/8 + 3/8, (51 \cdot \cos(2329/20000) \cdot \exp(-411/4000))/40 - (9 \cdot \exp(-$   
 $411/4000) \cdot \sin(2329/20000))/8 + 3/8, (51 \cdot \cos(1173/10000) \cdot \exp(-207/2000))/40 - (9 \cdot \exp(-207/2000) \cdot \sin(1173/10000))/8 + 3/8,$   
 $(51 \cdot \cos(2363/20000) \cdot \exp(-417/4000))/40 - (9 \cdot \exp(-417/4000) \cdot \sin(2363/20000))/8 + 3/8, (51 \cdot \cos(119/1000) \cdot \exp(-21/200))/40 - (9 \cdot \exp(-$   
 $21/200) \cdot \sin(119/1000))/8 + 3/8, (51 \cdot \cos(2397/20000) \cdot \exp(-423/4000))/40 - (9 \cdot \exp(-423/4000) \cdot \sin(2397/20000))/8 + 3/8,$   
 $(51 \cdot \cos(1207/10000) \cdot \exp(-213/2000))/40 - (9 \cdot \exp(-213/2000) \cdot \sin(1207/10000))/8 + 3/8, (51 \cdot \cos(2431/20000) \cdot \exp(-429/4000))/40 -$   
 $(9 \cdot \exp(-429/4000) \cdot \sin(2431/20000))/8 + 3/8, (51 \cdot \cos(153/1250) \cdot \exp(-27/250))/40 - (9 \cdot \exp(-27/250) \cdot \sin(153/1250))/8 + 3/8,$   
 $(51 \cdot \cos(493/4000) \cdot \exp(-87/800))/40 - (9 \cdot \exp(-87/800) \cdot \sin(493/4000))/8 + 3/8, (51 \cdot \cos(1241/10000) \cdot \exp(-219/2000))/40 - (9 \cdot \exp(-$   
 $219/2000) \cdot \sin(1241/10000))/8 + 3/8, (51 \cdot \cos(2499/20000) \cdot \exp(-441/4000))/40 - (9 \cdot \exp(-441/4000) \cdot \sin(2499/20000))/8 + 3/8,$   
 $(51 \cdot \cos(629/5000) \cdot \exp(-111/1000))/40 - (9 \cdot \exp(-111/1000) \cdot \sin(629/5000))/8 + 3/8, (51 \cdot \cos(2533/20000) \cdot \exp(-447/4000))/40 - (9 \cdot \exp(-$   
 $447/4000) \cdot \sin(2533/20000))/8 + 3/8, (51 \cdot \cos(51/400) \cdot \exp(-9/80))/40 - (9 \cdot \exp(-9/80) \cdot \sin(51/400))/8 + 3/8, (51 \cdot \cos(2567/20000) \cdot \exp(-$   
 $453/4000))/40 - (9 \cdot \exp(-453/4000) \cdot \sin(2567/20000))/8 + 3/8, (51 \cdot \cos(323/2500) \cdot \exp(-57/500))/40 - (9 \cdot \exp(-57/500) \cdot \sin(323/2500))/8 +$   
 $3/8, (51 \cdot \cos(2601/20000) \cdot \exp(-459/4000))/40 - (9 \cdot \exp(-459/4000) \cdot \sin(2601/20000))/8 + 3/8, (51 \cdot \cos(1309/10000) \cdot \exp(-231/2000))/40$   
 $- (9 \cdot \exp(-231/2000) \cdot \sin(1309/10000))/8 + 3/8, (51 \cdot \cos(527/4000) \cdot \exp(-93/800))/40 - (9 \cdot \exp(-93/800) \cdot \sin(527/4000))/8 + 3/8,$   
 $(51 \cdot \cos(663/5000) \cdot \exp(-117/1000))/40 - (9 \cdot \exp(-117/1000) \cdot \sin(663/5000))/8 + 3/8, (51 \cdot \cos(2669/20000) \cdot \exp(-471/4000))/40 - (9 \cdot \exp(-$   
 $471/4000) \cdot \sin(2669/20000))/8 + 3/8, (51 \cdot \cos(1343/10000) \cdot \exp(-237/2000))/40 - (9 \cdot \exp(-237/2000) \cdot \sin(1343/10000))/8 + 3/8,$   
 $(51 \cdot \cos(2703/20000) \cdot \exp(-477/4000))/40 - (9 \cdot \exp(-477/4000) \cdot \sin(2703/20000))/8 + 3/8, (51 \cdot \cos(17/125) \cdot \exp(-3/25))/40 - (9 \cdot \exp(-$   
 $3/25) \cdot \sin(17/125))/8 + 3/8, (51 \cdot \cos(2737/20000) \cdot \exp(-483/4000))/40 - (9 \cdot \exp(-483/4000) \cdot \sin(2737/20000))/8 + 3/8,$   
 $(51 \cdot \cos(1377/10000) \cdot \exp(-243/2000))/40 - (9 \cdot \exp(-243/2000) \cdot \sin(1377/10000))/8 + 3/8, (51 \cdot \cos(2771/20000) \cdot \exp(-489/4000))/40 -$   
 $(9 \cdot \exp(-489/4000) \cdot \sin(2771/20000))/8 + 3/8, (51 \cdot \cos(697/5000) \cdot \exp(-123/1000))/40 - (9 \cdot \exp(-123/1000) \cdot \sin(697/5000))/8 + 3/8,$   
 $(51 \cdot \cos(561/4000) \cdot \exp(-99/800))/40 - (9 \cdot \exp(-99/800) \cdot \sin(561/4000))/8 + 3/8, (51 \cdot \cos(1411/10000) \cdot \exp(-249/2000))/40 - (9 \cdot \exp(-$   
 $249/2000) \cdot \sin(1411/10000))/8 + 3/8, (51 \cdot \cos(2839/20000) \cdot \exp(-501/4000))/40 - (9 \cdot \exp(-501/4000) \cdot \sin(2839/20000))/8 + 3/8,$   
 $(51 \cdot \cos(357/2500) \cdot \exp(-63/500))/40 - (9 \cdot \exp(-63/500) \cdot \sin(357/2500))/8 + 3/8, (51 \cdot \cos(2873/20000) \cdot \exp(-507/4000))/40 - (9 \cdot \exp(-$   
 $507/4000) \cdot \sin(2873/20000))/8 + 3/8, (51 \cdot \cos(289/2000) \cdot \exp(-51/400))/40 - (9 \cdot \exp(-51/400) \cdot \sin(289/2000))/8 + 3/8,$   
 $(51 \cdot \cos(2907/20000) \cdot \exp(-513/4000))/40 - (9 \cdot \exp(-513/4000) \cdot \sin(2907/20000))/8 + 3/8, (51 \cdot \cos(731/5000) \cdot \exp(-129/1000))/40 -$   
 $(9 \cdot \exp(-129/1000) \cdot \sin(731/5000))/8 + 3/8, (51 \cdot \cos(2941/20000) \cdot \exp(-519/4000))/40 - (9 \cdot \exp(-519/4000) \cdot \sin(2941/20000))/8 + 3/8,$   
 $(51 \cdot \cos(1479/10000) \cdot \exp(-261/2000))/40 - (9 \cdot \exp(-261/2000) \cdot \sin(1479/10000))/8 + 3/8, (51 \cdot \cos(119/800) \cdot \exp(-21/160))/40 - (9 \cdot \exp(-$   
 $21/160) \cdot \sin(119/800))/8 + 3/8, (51 \cdot \cos(187/1250) \cdot \exp(-33/250))/40 - (9 \cdot \exp(-33/250) \cdot \sin(187/1250))/8 + 3/8,$   
 $(51 \cdot \cos(3009/20000) \cdot \exp(-531/4000))/40 - (9 \cdot \exp(-531/4000) \cdot \sin(3009/20000))/8 + 3/8, (51 \cdot \cos(1513/10000) \cdot \exp(-267/2000))/40 -$   
 $(9 \cdot \exp(-267/2000) \cdot \sin(1513/10000))/8 + 3/8, (51 \cdot \cos(3043/20000) \cdot \exp(-537/4000))/40 - (9 \cdot \exp(-537/4000) \cdot \sin(3043/20000))/8 + 3/8,$   
 $(51 \cdot \cos(153/1000) \cdot \exp(-27/200))/40 - (9 \cdot \exp(-27/200) \cdot \sin(153/1000))/8 + 3/8, (51 \cdot \cos(3077/20000) \cdot \exp(-543/4000))/40 - (9 \cdot \exp(-$   
 $543/4000) \cdot \sin(3077/20000))/8 + 3/8, (51 \cdot \cos(1547/10000) \cdot \exp(-273/2000))/40 - (9 \cdot \exp(-273/2000) \cdot \sin(1547/10000))/8 + 3/8,$   
 $(51 \cdot \cos(3111/20000) \cdot \exp(-549/4000))/40 - (9 \cdot \exp(-549/4000) \cdot \sin(3111/20000))/8 + 3/8, (51 \cdot \cos(391/2500) \cdot \exp(-69/500))/40 - (9 \cdot \exp(-$   
 $69/500) \cdot \sin(391/2500))/8 + 3/8, (51 \cdot \cos(629/4000) \cdot \exp(-111/800))/40 - (9 \cdot \exp(-111/800) \cdot \sin(629/4000))/8 + 3/8,$   
 $(51 \cdot \cos(1581/10000) \cdot \exp(-279/2000))/40 - (9 \cdot \exp(-279/2000) \cdot \sin(1581/10000))/8 + 3/8, (51 \cdot \cos(3179/20000) \cdot \exp(-561/4000))/40 -$   
 $(9 \cdot \exp(-561/4000) \cdot \sin(3179/20000))/8 + 3/8, (51 \cdot \cos(799/5000) \cdot \exp(-141/1000))/40 - (9 \cdot \exp(-141/1000) \cdot \sin(799/5000))/8 + 3/8,$   
 $(51 \cdot \cos(3213/20000) \cdot \exp(-567/4000))/40 - (9 \cdot \exp(-567/4000) \cdot \sin(3213/20000))/8 + 3/8, (51 \cdot \cos(323/2000) \cdot \exp(-57/400))/40 - (9 \cdot \exp(-$   
 $57/400) \cdot \sin(323/2000))/8 + 3/8, (51 \cdot \cos(3247/20000) \cdot \exp(-573/4000))/40 - (9 \cdot \exp(-573/4000) \cdot \sin(3247/20000))/8 + 3/8,$   
 $(51 \cdot \cos(102/625) \cdot \exp(-18/125))/40 - (9 \cdot \exp(-18/125) \cdot \sin(102/625))/8 + 3/8, (51 \cdot \cos(3281/20000) \cdot \exp(-579/4000))/40 - (9 \cdot \exp(-$   
 $579/4000) \cdot \sin(3281/20000))/8 + 3/8, (51 \cdot \cos(1649/10000) \cdot \exp(-291/2000))/40 - (9 \cdot \exp(-291/2000) \cdot \sin(1649/10000))/8 + 3/8,$   
 $(51 \cdot \cos(663/4000) \cdot \exp(-117/800))/40 - (9 \cdot \exp(-117/800) \cdot \sin(663/4000))/8 + 3/8, (51 \cdot \cos(833/5000) \cdot \exp(-147/1000))/40 - (9 \cdot \exp(-$   
 $147/1000) \cdot \sin(833/5000))/8 + 3/8, (51 \cdot \cos(3349/20000) \cdot \exp(-591/4000))/40 - (9 \cdot \exp(-591/4000) \cdot \sin(3349/20000))/8 + 3/8,$   
 $(51 \cdot \cos(1683/10000) \cdot \exp(-297/2000))/40 - (9 \cdot \exp(-297/2000) \cdot \sin(1683/10000))/8 + 3/8, (51 \cdot \cos(3383/20000) \cdot \exp(-597/4000))/40 -$   
 $(9 \cdot \exp(-597/4000) \cdot \sin(3383/20000))/8 + 3/8, (51 \cdot \cos(17/100) \cdot \exp(-3/20))/40 - (9 \cdot \exp(-3/20) \cdot \sin(17/100))/8 + 3/8,$   
 $(51 \cdot \cos(3417/20000) \cdot \exp(-603/4000))/40 - (9 \cdot \exp(-603/4000) \cdot \sin(3417/20000))/8 + 3/8, (51 \cdot \cos(1717/10000) \cdot \exp(-303/2000))/40 -$   
 $(9 \cdot \exp(-303/2000) \cdot \sin(1717/10000))/8 + 3/8, (51 \cdot \cos(3451/20000) \cdot \exp(-609/4000))/40 - (9 \cdot \exp(-609/4000) \cdot \sin(3451/20000))/8 + 3/8,$   
 $(51 \cdot \cos(867/5000) \cdot \exp(-153/1000))/40 - (9 \cdot \exp(-153/1000) \cdot \sin(867/5000))/8 + 3/8, (51 \cdot \cos(697/4000) \cdot \exp(-123/800))/40 - (9 \cdot \exp(-$   
 $123/800) \cdot \sin(697/4000))/8 + 3/8, (51 \cdot \cos(1751/10000) \cdot \exp(-309/2000))/40 - (9 \cdot \exp(-309/2000) \cdot \sin(1751/10000))/8 + 3/8,$   
 $(51 \cdot \cos(3519/20000) \cdot \exp(-621/4000))/40 - (9 \cdot \exp(-621/4000) \cdot \sin(3519/20000))/8 + 3/8, (51 \cdot \cos(221/1250) \cdot \exp(-39/250))/40 - (9 \cdot \exp(-$   
 $39/250) \cdot \sin(221/1250))/8 + 3/8, (51 \cdot \cos(3553/20000) \cdot \exp(-627/4000))/40 - (9 \cdot \exp(-627/4000) \cdot \sin(3553/20000))/8 + 3/8,$   
 $(51 \cdot \cos(357/2000) \cdot \exp(-63/400))/40 - (9 \cdot \exp(-63/400) \cdot \sin(357/2000))/8 + 3/8, (51 \cdot \cos(3587/20000) \cdot \exp(-633/4000))/40 - (9 \cdot \exp(-$   
 $633/4000) \cdot \sin(3587/20000))/8 + 3/8, (51 \cdot \cos(901/5000) \cdot \exp(-159/1000))/40 - (9 \cdot \exp(-159/1000) \cdot \sin(901/5000))/8 + 3/8,$   
 $(51 \cdot \cos(3621/20000) \cdot \exp(-639/4000))/40 - (9 \cdot \exp(-639/4000) \cdot \sin(3621/20000))/8 + 3/8, (51 \cdot \cos(1819/10000) \cdot \exp(-321/2000))/40 -$   
 $(9 \cdot \exp(-321/2000) \cdot \sin(1819/10000))/8 + 3/8, (51 \cdot \cos(731/4000) \cdot \exp(-129/800))/40 - (9 \cdot \exp(-129/800) \cdot \sin(731/4000))/8 + 3/8,$   
 $(51 \cdot \cos(459/2500) \cdot \exp(-81/500))/40 - (9 \cdot \exp(-81/500) \cdot \sin(459/2500))/8 + 3/8, (51 \cdot \cos(3689/20000) \cdot \exp(-651/4000))/40 - (9 \cdot \exp(-$   
 $651/4000) \cdot \sin(3689/20000))/8 + 3/8, (51 \cdot \cos(1853/10000) \cdot \exp(-327/2000))/40 - (9 \cdot \exp(-327/2000) \cdot \sin(1853/10000))/8 + 3/8,$   
 $(51 \cdot \cos(3723/20000) \cdot \exp(-657/4000))/40 - (9 \cdot \exp(-657/4000) \cdot \sin(3723/20000))/8 + 3/8, (51 \cdot \cos(187/1000) \cdot \exp(-33/200))/40 - (9 \cdot \exp(-$   
 $33/200) \cdot \sin(187/1000))/8 + 3/8, (51 \cdot \cos(3757/20000) \cdot \exp(-663/4000))/40 - (9 \cdot \exp(-663/4000) \cdot \sin(3757/20000))/8 + 3/8,$   
 $(51 \cdot \cos(1887/10000) \cdot \exp(-333/2000))/40 - (9 \cdot \exp(-333/2000) \cdot \sin(1887/10000))/8 + 3/8, (51 \cdot \cos(3791/20000) \cdot \exp(-669/4000))/40 -$   
 $(9 \cdot \exp(-669/4000) \cdot \sin(3791/20000))/8 + 3/8, (51 \cdot \cos(119/625) \cdot \exp(-21/125))/40 - (9 \cdot \exp(-21/125) \cdot \sin(119/625))/8 + 3/8,$   
 $(51 \cdot \cos(153/800) \cdot \exp(-27/160))/40 - (9 \cdot \exp(-27/160) \cdot \sin(153/800))/8 + 3/8, (51 \cdot \cos(1921/10000) \cdot \exp(-339/2000))/40 - (9 \cdot \exp(-$   
 $339/2000) \cdot \sin(1921/10000))/8 + 3/8, (51 \cdot \cos(3859/20000) \cdot \exp(-681/4000))/40 - (9 \cdot \exp(-681/4000) \cdot \sin(3859/20000))/8 + 3/8,$   
 $(51 \cdot \cos(969/5000) \cdot \exp(-171/1000))/40 - (9 \cdot \exp(-171/1000) \cdot \sin(969/5000))/8 + 3/8, (51 \cdot \cos(3893/20000) \cdot \exp(-687/4000))/40 - (9 \cdot \exp(-$   
 $687/4000) \cdot \sin(3893/20000))/8 + 3/8, (51 \cdot \cos(391/2000) \cdot \exp(-69/400))/40 - (9 \cdot \exp(-69/400) \cdot \sin(391/2000))/8 + 3/8,$

$(51 \cdot \cos(3927/20000) \cdot \exp(-693/4000))/40 - (9 \cdot \exp(-693/4000) \cdot \sin(3927/20000))/8 + 3/8, (51 \cdot \cos(493/2500) \cdot \exp(-87/500))/40 - (9 \cdot \exp(-87/500) \cdot \sin(493/2500))/8 + 3/8, (51 \cdot \cos(3961/20000) \cdot \exp(-699/4000))/40 - (9 \cdot \exp(-699/4000) \cdot \sin(3961/20000))/8 + 3/8, (51 \cdot \cos(1989/10000) \cdot \exp(-351/2000))/40 - (9 \cdot \exp(-351/2000) \cdot \sin(1989/10000))/8 + 3/8, (51 \cdot \cos(799/4000) \cdot \exp(-141/800))/40 - (9 \cdot \exp(-141/800) \cdot \sin(799/4000))/8 + 3/8, (51 \cdot \cos(1003/5000) \cdot \exp(-177/1000))/40 - (9 \cdot \exp(-177/1000) \cdot \sin(1003/5000))/8 + 3/8, (51 \cdot \cos(4029/20000) \cdot \exp(-711/4000))/40 - (9 \cdot \exp(-711/4000) \cdot \sin(4029/20000))/8 + 3/8, (51 \cdot \cos(2023/10000) \cdot \exp(-357/2000))/40 - (9 \cdot \exp(-357/2000) \cdot \sin(2023/10000))/8 + 3/8, (51 \cdot \cos(4063/20000) \cdot \exp(-717/4000))/40 - (9 \cdot \exp(-717/4000) \cdot \sin(4063/20000))/8 + 3/8, (51 \cdot \cos(51/250) \cdot \exp(-9/50))/40 - (9 \cdot \exp(-9/50) \cdot \sin(51/250))/8 + 3/8, (51 \cdot \cos(4097/20000) \cdot \exp(-723/4000))/40 - (9 \cdot \exp(-723/4000) \cdot \sin(4097/20000))/8 + 3/8, (51 \cdot \cos(2057/10000) \cdot \exp(-363/2000))/40 - (9 \cdot \exp(-363/2000) \cdot \sin(2057/10000))/8 + 3/8, (51 \cdot \cos(4131/20000) \cdot \exp(-729/4000))/40 - (9 \cdot \exp(-729/4000) \cdot \sin(4131/20000))/8 + 3/8, (51 \cdot \cos(1037/5000) \cdot \exp(-183/1000))/40 - (9 \cdot \exp(-183/1000) \cdot \sin(1037/5000))/8 + 3/8, (51 \cdot \cos(833/4000) \cdot \exp(-147/800))/40 - (9 \cdot \exp(-147/800) \cdot \sin(833/4000))/8 + 3/8, (51 \cdot \cos(2091/10000) \cdot \exp(-369/2000))/40 - (9 \cdot \exp(-369/2000) \cdot \sin(2091/10000))/8 + 3/8, (51 \cdot \cos(4199/20000) \cdot \exp(-741/4000))/40 - (9 \cdot \exp(-741/4000) \cdot \sin(4199/20000))/8 + 3/8, (51 \cdot \cos(527/2500) \cdot \exp(-93/500))/40 - (9 \cdot \exp(-93/500) \cdot \sin(527/2500))/8 + 3/8, (51 \cdot \cos(4233/20000) \cdot \exp(-747/4000))/40 - (9 \cdot \exp(-747/4000) \cdot \sin(4233/20000))/8 + 3/8, (51 \cdot \cos(17/80) \cdot \exp(-3/16))/40 - (9 \cdot \exp(-3/16) \cdot \sin(17/80))/8 + 3/8, (51 \cdot \cos(4267/20000) \cdot \exp(-753/4000))/40 - (9 \cdot \exp(-753/4000) \cdot \sin(4267/20000))/8 + 3/8, (51 \cdot \cos(1071/5000) \cdot \exp(-189/1000))/40 - (9 \cdot \exp(-189/1000) \cdot \sin(1071/5000))/8 + 3/8, (51 \cdot \cos(4301/20000) \cdot \exp(-759/4000))/40 - (9 \cdot \exp(-759/4000) \cdot \sin(4301/20000))/8 + 3/8, (51 \cdot \cos(2159/10000) \cdot \exp(-381/2000))/40 - (9 \cdot \exp(-381/2000) \cdot \sin(2159/10000))/8 + 3/8, (51 \cdot \cos(867/4000) \cdot \exp(-153/800))/40 - (9 \cdot \exp(-153/800) \cdot \sin(867/4000))/8 + 3/8, (51 \cdot \cos(136/625) \cdot \exp(-24/125))/40 - (9 \cdot \exp(-24/125) \cdot \sin(136/625))/8 + 3/8, (51 \cdot \cos(4369/20000) \cdot \exp(-771/4000))/40 - (9 \cdot \exp(-771/4000) \cdot \sin(4369/20000))/8 + 3/8, (51 \cdot \cos(2193/10000) \cdot \exp(-387/2000))/40 - (9 \cdot \exp(-387/2000) \cdot \sin(2193/10000))/8 + 3/8, (51 \cdot \cos(4403/20000) \cdot \exp(-777/4000))/40 - (9 \cdot \exp(-777/4000) \cdot \sin(4403/20000))/8 + 3/8, (51 \cdot \cos(221/1000) \cdot \exp(-39/200))/40 - (9 \cdot \exp(-39/200) \cdot \sin(221/1000))/8 + 3/8, (51 \cdot \cos(4437/20000) \cdot \exp(-783/4000))/40 - (9 \cdot \exp(-783/4000) \cdot \sin(4437/20000))/8 + 3/8, (51 \cdot \cos(2227/10000) \cdot \exp(-393/2000))/40 - (9 \cdot \exp(-393/2000) \cdot \sin(2227/10000))/8 + 3/8, (51 \cdot \cos(4471/20000) \cdot \exp(-789/4000))/40 - (9 \cdot \exp(-789/4000) \cdot \sin(4471/20000))/8 + 3/8, (51 \cdot \cos(561/2500) \cdot \exp(-99/500))/40 - (9 \cdot \exp(-99/500) \cdot \sin(561/2500))/8 + 3/8, (51 \cdot \cos(901/4000) \cdot \exp(-159/800))/40 - (9 \cdot \exp(-159/800) \cdot \sin(901/4000))/8 + 3/8, (51 \cdot \cos(2261/10000) \cdot \exp(-399/2000))/40 - (9 \cdot \exp(-399/2000) \cdot \sin(2261/10000))/8 + 3/8, (51 \cdot \cos(4539/20000) \cdot \exp(-801/4000))/40 - (9 \cdot \exp(-801/4000) \cdot \sin(4539/20000))/8 + 3/8, (51 \cdot \cos(1139/5000) \cdot \exp(-201/1000))/40 - (9 \cdot \exp(-201/1000) \cdot \sin(1139/5000))/8 + 3/8, (51 \cdot \cos(4573/20000) \cdot \exp(-807/4000))/40 - (9 \cdot \exp(-807/4000) \cdot \sin(4573/20000))/8 + 3/8, (51 \cdot \cos(459/2000) \cdot \exp(-81/400))/40 - (9 \cdot \exp(-81/400) \cdot \sin(459/2000))/8 + 3/8, (51 \cdot \cos(4607/20000) \cdot \exp(-813/4000))/40 - (9 \cdot \exp(-813/4000) \cdot \sin(4607/20000))/8 + 3/8, (51 \cdot \cos(289/1250) \cdot \exp(-51/250))/40 - (9 \cdot \exp(-51/250) \cdot \sin(289/1250))/8 + 3/8, (51 \cdot \cos(4641/20000) \cdot \exp(-819/4000))/40 - (9 \cdot \exp(-819/4000) \cdot \sin(4641/20000))/8 + 3/8, (51 \cdot \cos(2329/10000) \cdot \exp(-411/2000))/40 - (9 \cdot \exp(-411/2000) \cdot \sin(2329/10000))/8 + 3/8, (51 \cdot \cos(187/800) \cdot \exp(-33/160))/40 - (9 \cdot \exp(-33/160) \cdot \sin(187/800))/8 + 3/8, (51 \cdot \cos(1173/5000) \cdot \exp(-207/1000))/40 - (9 \cdot \exp(-207/1000) \cdot \sin(1173/5000))/8 + 3/8, (51 \cdot \cos(4709/20000) \cdot \exp(-831/4000))/40 - (9 \cdot \exp(-831/4000) \cdot \sin(4709/20000))/8 + 3/8, (51 \cdot \cos(2363/10000) \cdot \exp(-417/2000))/40 - (9 \cdot \exp(-417/2000) \cdot \sin(2363/10000))/8 + 3/8, (51 \cdot \cos(4743/20000) \cdot \exp(-837/4000))/40 - (9 \cdot \exp(-837/4000) \cdot \sin(4743/20000))/8 + 3/8, (51 \cdot \cos(119/500) \cdot \exp(-21/100))/40 - (9 \cdot \exp(-21/100) \cdot \sin(119/500))/8 + 3/8, (51 \cdot \cos(4777/20000) \cdot \exp(-843/4000))/40 - (9 \cdot \exp(-843/4000) \cdot \sin(4777/20000))/8 + 3/8, (51 \cdot \cos(2397/10000) \cdot \exp(-423/2000))/40 - (9 \cdot \exp(-423/2000) \cdot \sin(2397/10000))/8 + 3/8, (51 \cdot \cos(4811/20000) \cdot \exp(-849/4000))/40 - (9 \cdot \exp(-849/4000) \cdot \sin(4811/20000))/8 + 3/8, (51 \cdot \cos(1207/5000) \cdot \exp(-213/1000))/40 - (9 \cdot \exp(-213/1000) \cdot \sin(1207/5000))/8 + 3/8, (51 \cdot \cos(969/4000) \cdot \exp(-171/800))/40 - (9 \cdot \exp(-171/800) \cdot \sin(969/4000))/8 + 3/8, (51 \cdot \cos(2431/10000) \cdot \exp(-429/2000))/40 - (9 \cdot \exp(-429/2000) \cdot \sin(2431/10000))/8 + 3/8, (51 \cdot \cos(4879/20000) \cdot \exp(-861/4000))/40 - (9 \cdot \exp(-861/4000) \cdot \sin(4879/20000))/8 + 3/8, (51 \cdot \cos(153/625) \cdot \exp(-27/125))/40 - (9 \cdot \exp(-27/125) \cdot \sin(153/625))/8 + 3/8, (51 \cdot \cos(4913/20000) \cdot \exp(-867/4000))/40 - (9 \cdot \exp(-867/4000) \cdot \sin(4913/20000))/8 + 3/8, (51 \cdot \cos(493/2000) \cdot \exp(-87/400))/40 - (9 \cdot \exp(-87/400) \cdot \sin(493/2000))/8 + 3/8, (51 \cdot \cos(4947/20000) \cdot \exp(-873/4000))/40 - (9 \cdot \exp(-873/4000) \cdot \sin(4947/20000))/8 + 3/8, (51 \cdot \cos(1241/5000) \cdot \exp(-219/1000))/40 - (9 \cdot \exp(-219/1000) \cdot \sin(1241/5000))/8 + 3/8, (51 \cdot \cos(4981/20000) \cdot \exp(-879/4000))/40 - (9 \cdot \exp(-879/4000) \cdot \sin(4981/20000))/8 + 3/8, (51 \cdot \cos(2499/10000) \cdot \exp(-441/2000))/40 - (9 \cdot \exp(-441/2000) \cdot \sin(2499/10000))/8 + 3/8, (51 \cdot \cos(1003/4000) \cdot \exp(-177/800))/40 - (9 \cdot \exp(-177/800) \cdot \sin(1003/4000))/8 + 3/8, (51 \cdot \cos(629/2500) \cdot \exp(-111/500))/40 - (9 \cdot \exp(-111/500) \cdot \sin(629/2500))/8 + 3/8, (51 \cdot \cos(5049/20000) \cdot \exp(-891/4000))/40 - (9 \cdot \exp(-891/4000) \cdot \sin(5049/20000))/8 + 3/8, (51 \cdot \cos(2533/10000) \cdot \exp(-447/2000))/40 - (9 \cdot \exp(-447/2000) \cdot \sin(2533/10000))/8 + 3/8, (51 \cdot \cos(5083/20000) \cdot \exp(-897/4000))/40 - (9 \cdot \exp(-897/4000) \cdot \sin(5083/20000))/8 + 3/8, (51 \cdot \cos(51/200) \cdot \exp(-9/40))/40 - (9 \cdot \exp(-9/40) \cdot \sin(51/200))/8 + 3/8, (51 \cdot \cos(5117/20000) \cdot \exp(-903/4000))/40 - (9 \cdot \exp(-903/4000) \cdot \sin(5117/20000))/8 + 3/8, (51 \cdot \cos(2567/10000) \cdot \exp(-453/2000))/40 - (9 \cdot \exp(-453/2000) \cdot \sin(2567/10000))/8 + 3/8, (51 \cdot \cos(5151/20000) \cdot \exp(-909/4000))/40 - (9 \cdot \exp(-909/4000) \cdot \sin(5151/20000))/8 + 3/8, (51 \cdot \cos(323/1250) \cdot \exp(-57/250))/40 - (9 \cdot \exp(-57/250) \cdot \sin(323/1250))/8 + 3/8, (51 \cdot \cos(1037/4000) \cdot \exp(-183/800))/40 - (9 \cdot \exp(-183/800) \cdot \sin(1037/4000))/8 + 3/8, (51 \cdot \cos(2601/10000) \cdot \exp(-459/2000))/40 - (9 \cdot \exp(-459/2000) \cdot \sin(2601/10000))/8 + 3/8, (51 \cdot \cos(5219/20000) \cdot \exp(-921/4000))/40 - (9 \cdot \exp(-921/4000) \cdot \sin(5219/20000))/8 + 3/8, (51 \cdot \cos(1309/5000) \cdot \exp(-231/1000))/40 - (9 \cdot \exp(-231/1000) \cdot \sin(1309/5000))/8 + 3/8, (51 \cdot \cos(5253/20000) \cdot \exp(-927/4000))/40 - (9 \cdot \exp(-927/4000) \cdot \sin(5253/20000))/8 + 3/8, (51 \cdot \cos(527/2000) \cdot \exp(-93/400))/40 - (9 \cdot \exp(-93/400) \cdot \sin(527/2000))/8 + 3/8, (51 \cdot \cos(5287/20000) \cdot \exp(-933/4000))/40 - (9 \cdot \exp(-933/4000) \cdot \sin(5287/20000))/8 + 3/8, (51 \cdot \cos(663/2500) \cdot \exp(-117/500))/40 - (9 \cdot \exp(-117/500) \cdot \sin(663/2500))/8 + 3/8, (51 \cdot \cos(5321/20000) \cdot \exp(-939/4000))/40 - (9 \cdot \exp(-939/4000) \cdot \sin(5321/20000))/8 + 3/8, (51 \cdot \cos(2669/10000) \cdot \exp(-471/2000))/40 - (9 \cdot \exp(-471/2000) \cdot \sin(2669/10000))/8 + 3/8, (51 \cdot \cos(1071/4000) \cdot \exp(-189/800))/40 - (9 \cdot \exp(-189/800) \cdot \sin(1071/4000))/8 + 3/8, (51 \cdot \cos(1343/5000) \cdot \exp(-237/1000))/40 - (9 \cdot \exp(-237/1000) \cdot \sin(1343/5000))/8 + 3/8, (51 \cdot \cos(5389/20000) \cdot \exp(-951/4000))/40 - (9 \cdot \exp(-951/4000) \cdot \sin(5389/20000))/8 + 3/8, (51 \cdot \cos(2703/10000) \cdot \exp(-477/2000))/40 - (9 \cdot \exp(-477/2000) \cdot \sin(2703/10000))/8 + 3/8, (51 \cdot \cos(5423/20000) \cdot \exp(-957/4000))/40 - (9 \cdot \exp(-957/4000) \cdot \sin(5423/20000))/8 + 3/8, (51 \cdot \cos(34/125) \cdot \exp(-6/25))/40 - (9 \cdot \exp(-6/25) \cdot \sin(34/125))/8 + 3/8, (51 \cdot \cos(5457/20000) \cdot \exp(-963/4000))/40 - (9 \cdot \exp(-963/4000) \cdot \sin(5457/20000))/8 + 3/8, (51 \cdot \cos(2737/10000) \cdot \exp(-483/2000))/40 - (9 \cdot \exp(-483/2000) \cdot \sin(2737/10000))/8 + 3/8, (51 \cdot \cos(5491/20000) \cdot \exp(-969/4000))/40 - (9 \cdot \exp(-969/4000) \cdot \sin(5491/20000))/8 + 3/8, (51 \cdot \cos(1377/5000) \cdot \exp(-243/1000))/40 - (9 \cdot \exp(-243/1000) \cdot \sin(1377/5000))/8 + 3/8, (51 \cdot \cos(221/800) \cdot \exp(-39/160))/40 - (9 \cdot \exp(-39/160) \cdot \sin(221/800))/8 + 3/8, (51 \cdot \cos(2771/10000) \cdot \exp(-489/2000))/40 - (9 \cdot \exp(-489/2000) \cdot \sin(2771/10000))/8 + 3/8, (51 \cdot \cos(5559/20000) \cdot \exp(-981/4000))/40 - (9 \cdot \exp(-981/4000) \cdot \sin(5559/20000))/8 + 3/8, (51 \cdot \cos(697/2500) \cdot \exp(-123/500))/40 - (9 \cdot \exp(-123/500) \cdot \sin(697/2500))/8 + 3/8, (51 \cdot \cos(5593/20000) \cdot \exp(-987/4000))/40 - (9 \cdot \exp(-987/4000) \cdot \sin(5593/20000))/8 + 3/8,$

$(51*\cos(561/2000)*\exp(-99/400))/40 - (9*\exp(-99/400)*\sin(561/2000))/8 + 3/8, (51*\cos(5627/20000)*\exp(-993/4000))/40 - (9*\exp(-993/4000)*\sin(5627/20000))/8 + 3/8, (51*\cos(1411/5000)*\exp(-249/1000))/40 - (9*\exp(-249/1000)*\sin(1411/5000))/8 + 3/8,$   
 $(51*\cos(5661/20000)*\exp(-999/4000))/40 - (9*\exp(-999/4000)*\sin(5661/20000))/8 + 3/8, (51*\cos(2839/10000)*\exp(-501/2000))/40 - (9*\exp(-501/2000)*\sin(2839/10000))/8 + 3/8, (51*\cos(1139/4000)*\exp(-201/800))/40 - (9*\exp(-201/800)*\sin(1139/4000))/8 + 3/8,$   
 $(51*\cos(357/1250)*\exp(-63/250))/40 - (9*\exp(-63/250)*\sin(357/1250))/8 + 3/8, (51*\cos(5729/20000)*\exp(-1011/4000))/40 - (9*\exp(-1011/4000)*\sin(5729/20000))/8 + 3/8, (51*\cos(2873/10000)*\exp(-507/2000))/40 - (9*\exp(-507/2000)*\sin(2873/10000))/8 + 3/8,$   
 $(51*\cos(5763/20000)*\exp(-1017/4000))/40 - (9*\exp(-1017/4000)*\sin(5763/20000))/8 + 3/8, (51*\cos(289/1000)*\exp(-51/200))/40 - (9*\exp(-51/200)*\sin(289/1000))/8 + 3/8, (51*\cos(5797/20000)*\exp(-1023/4000))/40 - (9*\exp(-1023/4000)*\sin(5797/20000))/8 + 3/8,$   
 $(51*\cos(2907/10000)*\exp(-513/2000))/40 - (9*\exp(-513/2000)*\sin(2907/10000))/8 + 3/8, (51*\cos(5831/20000)*\exp(-1029/4000))/40 - (9*\exp(-1029/4000)*\sin(5831/20000))/8 + 3/8, (51*\cos(731/2500)*\exp(-129/500))/40 - (9*\exp(-129/500)*\sin(731/2500))/8 + 3/8,$   
 $(51*\cos(1173/4000)*\exp(-207/800))/40 - (9*\exp(-207/800)*\sin(1173/4000))/8 + 3/8, (51*\cos(2941/10000)*\exp(-519/2000))/40 - (9*\exp(-519/2000)*\sin(2941/10000))/8 + 3/8, (51*\cos(5899/20000)*\exp(-1041/4000))/40 - (9*\exp(-1041/4000)*\sin(5899/20000))/8 + 3/8,$   
 $(51*\cos(1479/5000)*\exp(-261/1000))/40 - (9*\exp(-261/1000)*\sin(1479/5000))/8 + 3/8, (51*\cos(5933/20000)*\exp(-1047/4000))/40 - (9*\exp(-1047/4000)*\sin(5933/20000))/8 + 3/8, (51*\cos(119/400)*\exp(-21/80))/40 - (9*\exp(-21/80)*\sin(119/400))/8 + 3/8,$   
 $(51*\cos(5967/20000)*\exp(-1053/4000))/40 - (9*\exp(-1053/4000)*\sin(5967/20000))/8 + 3/8, (51*\cos(187/625)*\exp(-33/125))/40 - (9*\exp(-33/125)*\sin(187/625))/8 + 3/8, (51*\cos(6001/20000)*\exp(-1059/4000))/40 - (9*\exp(-1059/4000)*\sin(6001/20000))/8 + 3/8,$   
 $(51*\cos(3009/10000)*\exp(-531/2000))/40 - (9*\exp(-531/2000)*\sin(3009/10000))/8 + 3/8, (51*\cos(1207/4000)*\exp(-213/800))/40 - (9*\exp(-213/800)*\sin(1207/4000))/8 + 3/8, (51*\cos(1513/5000)*\exp(-267/1000))/40 - (9*\exp(-267/1000)*\sin(1513/5000))/8 + 3/8,$   
 $(51*\cos(6069/20000)*\exp(-1071/4000))/40 - (9*\exp(-1071/4000)*\sin(6069/20000))/8 + 3/8, (51*\cos(3043/10000)*\exp(-537/2000))/40 - (9*\exp(-537/2000)*\sin(3043/10000))/8 + 3/8, (51*\cos(6103/20000)*\exp(-1077/4000))/40 - (9*\exp(-1077/4000)*\sin(6103/20000))/8 + 3/8,$   
 $(51*\cos(153/500)*\exp(-27/100))/40 - (9*\exp(-27/100)*\sin(153/500))/8 + 3/8, (51*\cos(6137/20000)*\exp(-1083/4000))/40 - (9*\exp(-1083/4000)*\sin(6137/20000))/8 + 3/8, (51*\cos(3077/10000)*\exp(-543/2000))/40 - (9*\exp(-543/2000)*\sin(3077/10000))/8 + 3/8,$   
 $(51*\cos(6171/20000)*\exp(-1089/4000))/40 - (9*\exp(-1089/4000)*\sin(6171/20000))/8 + 3/8, (51*\cos(1547/5000)*\exp(-273/1000))/40 - (9*\exp(-273/1000)*\sin(1547/5000))/8 + 3/8, (51*\cos(1241/4000)*\exp(-219/800))/40 - (9*\exp(-219/800)*\sin(1241/4000))/8 + 3/8,$   
 $(51*\cos(3111/10000)*\exp(-549/2000))/40 - (9*\exp(-549/2000)*\sin(3111/10000))/8 + 3/8, (51*\cos(6239/20000)*\exp(-1101/4000))/40 - (9*\exp(-1101/4000)*\sin(6239/20000))/8 + 3/8, (51*\cos(391/1250)*\exp(-69/250))/40 - (9*\exp(-69/250)*\sin(391/1250))/8 + 3/8,$   
 $(51*\cos(6273/20000)*\exp(-1107/4000))/40 - (9*\exp(-1107/4000)*\sin(6273/20000))/8 + 3/8, (51*\cos(629/2000)*\exp(-111/400))/40 - (9*\exp(-111/400)*\sin(629/2000))/8 + 3/8, (51*\cos(6307/20000)*\exp(-1113/4000))/40 - (9*\exp(-1113/4000)*\sin(6307/20000))/8 + 3/8,$   
 $(51*\cos(1581/5000)*\exp(-279/1000))/40 - (9*\exp(-279/1000)*\sin(1581/5000))/8 + 3/8, (51*\cos(6341/20000)*\exp(-1119/4000))/40 - (9*\exp(-1119/4000)*\sin(6341/20000))/8 + 3/8, (51*\cos(3179/10000)*\exp(-561/2000))/40 - (9*\exp(-561/2000)*\sin(3179/10000))/8 + 3/8,$   
 $(51*\cos(51/160)*\exp(-9/32))/40 - (9*\exp(-9/32)*\sin(51/160))/8 + 3/8, (51*\cos(799/2500)*\exp(-141/500))/40 - (9*\exp(-141/500)*\sin(799/2500))/8 + 3/8, (51*\cos(6409/20000)*\exp(-1131/4000))/40 - (9*\exp(-1131/4000)*\sin(6409/20000))/8 + 3/8,$   
 $(51*\cos(3213/10000)*\exp(-567/2000))/40 - (9*\exp(-567/2000)*\sin(3213/10000))/8 + 3/8, (51*\cos(6443/20000)*\exp(-1137/4000))/40 - (9*\exp(-1137/4000)*\sin(6443/20000))/8 + 3/8, (51*\cos(323/1000)*\exp(-57/200))/40 - (9*\exp(-57/200)*\sin(323/1000))/8 + 3/8,$   
 $(51*\cos(6477/20000)*\exp(-1143/4000))/40 - (9*\exp(-1143/4000)*\sin(6477/20000))/8 + 3/8, (51*\cos(3247/10000)*\exp(-573/2000))/40 - (9*\exp(-573/2000)*\sin(3247/10000))/8 + 3/8, (51*\cos(6511/20000)*\exp(-1149/4000))/40 - (9*\exp(-1149/4000)*\sin(6511/20000))/8 + 3/8,$   
 $(51*\cos(204/625)*\exp(-36/125))/40 - (9*\exp(-36/125)*\sin(204/625))/8 + 3/8, (51*\cos(1309/4000)*\exp(-231/800))/40 - (9*\exp(-231/800)*\sin(1309/4000))/8 + 3/8, (51*\cos(3281/10000)*\exp(-579/2000))/40 - (9*\exp(-579/2000)*\sin(3281/10000))/8 + 3/8,$   
 $(51*\cos(6579/20000)*\exp(-1161/4000))/40 - (9*\exp(-1161/4000)*\sin(6579/20000))/8 + 3/8, (51*\cos(1649/5000)*\exp(-291/1000))/40 - (9*\exp(-291/1000)*\sin(1649/5000))/8 + 3/8, (51*\cos(6613/20000)*\exp(-1167/4000))/40 - (9*\exp(-1167/4000)*\sin(6613/20000))/8 + 3/8,$   
 $(51*\cos(663/2000)*\exp(-117/400))/40 - (9*\exp(-117/400)*\sin(663/2000))/8 + 3/8, (51*\cos(6647/20000)*\exp(-1173/4000))/40 - (9*\exp(-1173/4000)*\sin(6647/20000))/8 + 3/8, (51*\cos(833/2500)*\exp(-147/500))/40 - (9*\exp(-147/500)*\sin(833/2500))/8 + 3/8,$   
 $(51*\cos(6681/20000)*\exp(-1179/4000))/40 - (9*\exp(-1179/4000)*\sin(6681/20000))/8 + 3/8, (51*\cos(3349/10000)*\exp(-591/2000))/40 - (9*\exp(-591/2000)*\sin(3349/10000))/8 + 3/8, (51*\cos(1343/4000)*\exp(-237/800))/40 - (9*\exp(-237/800)*\sin(1343/4000))/8 + 3/8,$   
 $(51*\cos(1683/5000)*\exp(-297/1000))/40 - (9*\exp(-297/1000)*\sin(1683/5000))/8 + 3/8, (51*\cos(6749/20000)*\exp(-1191/4000))/40 - (9*\exp(-1191/4000)*\sin(6749/20000))/8 + 3/8, (51*\cos(3383/10000)*\exp(-597/2000))/40 - (9*\exp(-597/2000)*\sin(3383/10000))/8 + 3/8,$   
 $(51*\cos(6783/20000)*\exp(-1197/4000))/40 - (9*\exp(-1197/4000)*\sin(6783/20000))/8 + 3/8, (51*\cos(17/50)*\exp(-3/10))/40 - (9*\exp(-3/10)*\sin(17/50))/8 + 3/8, (51*\cos(6817/20000)*\exp(-1203/4000))/40 - (9*\exp(-1203/4000)*\sin(6817/20000))/8 + 3/8,$   
 $(51*\cos(3417/10000)*\exp(-603/2000))/40 - (9*\exp(-603/2000)*\sin(3417/10000))/8 + 3/8, (51*\cos(3417/10000)*\exp(-603/2000))/40 - (9*\exp(-603/2000)*\sin(3417/10000))/8 + 3/8,$

a =

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

an =



[ -153/80, - (153\*cos(17/20000)\*exp(-3/4000))/80 - (6\*exp(-3/4000)\*sin(17/20000))/25, - (153\*cos(17/10000)\*exp(-3/2000))/80 - (6\*exp(-3/2000)\*sin(17/10000))/25, - (153\*cos(51/20000)\*exp(-9/4000))/80 - (6\*exp(-9/4000)\*sin(51/20000))/25, - (153\*cos(17/5000)\*exp(-3/1000))/80 - (6\*exp(-3/1000)\*sin(17/5000))/25, - (153\*cos(17/4000)\*exp(-3/800))/80 - (6\*exp(-3/800)\*sin(17/4000))/25, - (153\*cos(51/10000)\*exp(-9/2000))/80 - (6\*exp(-9/2000)\*sin(51/10000))/25, - (153\*cos(119/20000)\*exp(-21/4000))/80 - (6\*exp(-21/4000)\*sin(119/20000))/25, - (153\*cos(17/2500)\*exp(-3/500))/80 - (6\*exp(-3/500)\*sin(17/2500))/25, - (153\*cos(153/20000)\*exp(-27/4000))/80 - (6\*exp(-27/4000)\*sin(153/20000))/25, - (153\*cos(17/2000)\*exp(-3/400))/80 - (6\*exp(-3/400)\*sin(17/2000))/25, - (153\*cos(187/20000)\*exp(-33/4000))/80 - (6\*exp(-33/4000)\*sin(187/20000))/25, - (153\*cos(51/5000)\*exp(-9/1000))/80 - (6\*exp(-9/1000)\*sin(51/5000))/25, - (153\*cos(221/20000)\*exp(-39/4000))/80 - (6\*exp(-39/4000)\*sin(221/20000))/25, - (153\*cos(119/10000)\*exp(-21/2000))/80 - (6\*exp(-21/2000)\*sin(119/10000))/25, - (153\*cos(51/4000)\*exp(-9/800))/80 - (6\*exp(-9/800)\*sin(51/4000))/25, - (153\*cos(17/1250)\*exp(-3/250))/80 - (6\*exp(-3/250)\*sin(17/1250))/25, - (153\*cos(289/20000)\*exp(-51/4000))/80 - (6\*exp(-51/4000)\*sin(289/20000))/25, - (153\*cos(153/10000)\*exp(-27/2000))/80 - (6\*exp(-27/2000)\*sin(153/10000))/25, - (153\*cos(323/20000)\*exp(-57/4000))/80 - (6\*exp(-57/4000)\*sin(323/20000))/25, - (153\*cos(17/1000)\*exp(-3/200))/80 - (6\*exp(-3/200)\*sin(17/1000))/25, - (153\*cos(357/20000)\*exp(-63/4000))/80 - (6\*exp(-63/4000)\*sin(357/20000))/25, - (153\*cos(187/10000)\*exp(-33/2000))/80 - (6\*exp(-33/2000)\*sin(187/10000))/25, - (153\*cos(391/20000)\*exp(-69/4000))/80 - (6\*exp(-69/4000)\*sin(391/20000))/25, - (153\*cos(51/2500)\*exp(-9/500))/80 - (6\*exp(-9/500)\*sin(51/2500))/25, - (153\*cos(17/800)\*exp(-3/160))/80 - (6\*exp(-3/160)\*sin(17/800))/25, - (153\*cos(221/10000)\*exp(-39/2000))/80 - (6\*exp(-39/2000)\*sin(221/10000))/25, - (153\*cos(459/20000)\*exp(-81/4000))/80 - (6\*exp(-81/4000)\*sin(459/20000))/25, - (153\*cos(119/5000)\*exp(-21/1000))/80 - (6\*exp(-21/1000)\*sin(119/5000))/25, - (153\*cos(493/20000)\*exp(-87/4000))/80 - (6\*exp(-87/4000)\*sin(493/20000))/25, - (153\*cos(51/2000)\*exp(-9/400))/80 - (6\*exp(-9/400)\*sin(51/2000))/25, - (153\*cos(527/20000)\*exp(-93/4000))/80 - (6\*exp(-93/4000)\*sin(527/20000))/25, - (153\*cos(17/625)\*exp(-3/125))/80 - (6\*exp(-3/125)\*sin(17/625))/25, - (153\*cos(561/20000)\*exp(-99/4000))/80 - (6\*exp(-99/4000)\*sin(561/20000))/25, - (153\*cos(289/10000)\*exp(-51/2000))/80 - (6\*exp(-51/2000)\*sin(289/10000))/25, - (153\*cos(119/4000)\*exp(-21/800))/80 - (6\*exp(-21/800)\*sin(119/4000))/25, - (153\*cos(153/5000)\*exp(-27/1000))/80 - (6\*exp(-27/1000)\*sin(153/5000))/25, - (153\*cos(629/20000)\*exp(-111/4000))/80 - (6\*exp(-111/4000)\*sin(629/20000))/25, - (153\*cos(323/10000)\*exp(-57/2000))/80 - (6\*exp(-57/2000)\*sin(323/10000))/25, - (153\*cos(663/20000)\*exp(-117/4000))/80 - (6\*exp(-117/4000)\*sin(663/20000))/25, - (153\*cos(17/500)\*exp(-3/100))/80 - (6\*exp(-3/100)\*sin(17/500))/25, - (153\*cos(697/20000)\*exp(-123/4000))/80 - (6\*exp(-123/4000)\*sin(697/20000))/25, - (153\*cos(357/10000)\*exp(-63/2000))/80 - (6\*exp(-63/2000)\*sin(357/10000))/25, - (153\*cos(731/20000)\*exp(-129/4000))/80 - (6\*exp(-129/4000)\*sin(731/20000))/25, - (153\*cos(187/5000)\*exp(-33/1000))/80 - (6\*exp(-33/1000)\*sin(187/5000))/25, - (153\*cos(153/4000)\*exp(-27/800))/80 - (6\*exp(-27/800)\*sin(153/4000))/25, - (153\*cos(391/10000)\*exp(-69/2000))/80 - (6\*exp(-69/2000)\*sin(391/10000))/25, - (153\*cos(799/20000)\*exp(-141/4000))/80 - (6\*exp(-141/4000)\*sin(799/20000))/25, - (153\*cos(51/1250)\*exp(-9/250))/80 - (6\*exp(-9/250)\*sin(51/1250))/25, - (153\*cos(833/20000)\*exp(-147/4000))/80 - (6\*exp(-147/4000)\*sin(833/20000))/25, - (153\*cos(17/400)\*exp(-3/80))/80 - (6\*exp(-3/80)\*sin(17/400))/25, - (153\*cos(867/20000)\*exp(-153/4000))/80 - (6\*exp(-153/4000)\*sin(867/20000))/25, - (153\*cos(221/5000)\*exp(-39/1000))/80 - (6\*exp(-39/1000)\*sin(221/5000))/25, - (153\*cos(901/20000)\*exp(-159/4000))/80 - (6\*exp(-159/4000)\*sin(901/20000))/25, - (153\*cos(459/10000)\*exp(-81/2000))/80 - (6\*exp(-81/2000)\*sin(459/10000))/25, - (153\*cos(187/4000)\*exp(-33/800))/80 - (6\*exp(-33/800)\*sin(187/4000))/25, - (153\*cos(119/2500)\*exp(-21/500))/80 - (6\*exp(-21/500)\*sin(119/2500))/25, - (153\*cos(969/20000)\*exp(-171/4000))/80 - (6\*exp(-171/4000)\*sin(969/20000))/25, - (153\*cos(493/10000)\*exp(-87/2000))/80 - (6\*exp(-87/2000)\*sin(493/10000))/25, - (153\*cos(1003/20000)\*exp(-177/4000))/80 - (6\*exp(-177/4000)\*sin(1003/20000))/25, - (153\*cos(51/1000)\*exp(-9/200))/80 - (6\*exp(-9/200)\*sin(51/1000))/25, - (153\*cos(1037/20000)\*exp(-183/4000))/80 - (6\*exp(-183/4000)\*sin(1037/20000))/25, - (153\*cos(527/10000)\*exp(-93/2000))/80 - (6\*exp(-93/2000)\*sin(527/10000))/25, - (153\*cos(1071/20000)\*exp(-189/4000))/80 - (6\*exp(-189/4000)\*sin(1071/20000))/25, - (153\*cos(34/625)\*exp(-6/125))/80 - (6\*exp(-6/125)\*sin(34/625))/25, - (153\*cos(221/4000)\*exp(-39/800))/80 - (6\*exp(-39/800)\*sin(221/4000))/25, - (153\*cos(561/10000)\*exp(-99/2000))/80 - (6\*exp(-99/2000)\*sin(561/10000))/25, - (153\*cos(1139/20000)\*exp(-201/4000))/80 - (6\*exp(-201/4000)\*sin(1139/20000))/25, - (153\*cos(289/5000)\*exp(-51/1000))/80 - (6\*exp(-51/1000)\*sin(289/5000))/25, - (153\*cos(1173/20000)\*exp(-207/4000))/80 - (6\*exp(-207/4000)\*sin(1173/20000))/25, - (153\*cos(119/2000)\*exp(-21/400))/80 - (6\*exp(-21/400)\*sin(119/2000))/25, - (153\*cos(1207/20000)\*exp(-213/4000))/80 - (6\*exp(-213/4000)\*sin(1207/20000))/25, - (153\*cos(153/2500)\*exp(-27/500))/80 - (6\*exp(-27/500)\*sin(153/2500))/25, - (153\*cos(1241/20000)\*exp(-219/4000))/80 - (6\*exp(-219/4000)\*sin(1241/20000))/25, - (153\*cos(629/10000)\*exp(-111/2000))/80 - (6\*exp(-111/2000)\*sin(629/10000))/25, - (153\*cos(51/800)\*exp(-9/160))/80 - (6\*exp(-9/160)\*sin(51/800))/25, - (153\*cos(323/5000)\*exp(-57/1000))/80 - (6\*exp(-57/1000)\*sin(323/5000))/25, - (153\*cos(1309/20000)\*exp(-231/4000))/80 - (6\*exp(-231/4000)\*sin(1309/20000))/25, - (153\*cos(663/10000)\*exp(-117/2000))/80 - (6\*exp(-117/2000)\*sin(663/10000))/25, - (153\*cos(1343/20000)\*exp(-237/4000))/80 - (6\*exp(-237/4000)\*sin(1343/20000))/25, - (153\*cos(17/250)\*exp(-3/50))/80 - (6\*exp(-3/50)\*sin(17/250))/25, - (153\*cos(1377/20000)\*exp(-243/4000))/80 - (6\*exp(-243/4000)\*sin(1377/20000))/25, - (153\*cos(697/10000)\*exp(-123/2000))/80 - (6\*exp(-123/2000)\*sin(697/10000))/25, - (153\*cos(1411/20000)\*exp(-249/4000))/80 - (6\*exp(-249/4000)\*sin(1411/20000))/25, - (153\*cos(357/5000)\*exp(-63/1000))/80 - (6\*exp(-63/1000)\*sin(357/5000))/25, - (153\*cos(289/4000)\*exp(-51/800))/80 - (6\*exp(-51/800)\*sin(289/4000))/25, - (153\*cos(731/10000)\*exp(-129/2000))/80 - (6\*exp(-129/2000)\*sin(731/10000))/25, - (153\*cos(1479/20000)\*exp(-261/4000))/80 - (6\*exp(-261/4000)\*sin(1479/20000))/25, - (153\*cos(187/2500)\*exp(-33/500))/80 - (6\*exp(-33/500)\*sin(187/2500))/25, - (153\*cos(1513/20000)\*exp(-267/4000))/80 - (6\*exp(-267/4000)\*sin(1513/20000))/25, - (153\*cos(153/2000)\*exp(-27/400))/80 - (6\*exp(-27/400)\*sin(153/2000))/25, - (153\*cos(1547/20000)\*exp(-273/4000))/80 - (6\*exp(-273/4000)\*sin(1547/20000))/25, - (153\*cos(391/5000)\*exp(-69/1000))/80 - (6\*exp(-69/1000)\*sin(391/5000))/25, - (153\*cos(1581/20000)\*exp(-279/4000))/80 - (6\*exp(-279/4000)\*sin(1581/20000))/25, - (153\*cos(799/10000)\*exp(-141/2000))/80 - (6\*exp(-141/2000)\*sin(799/10000))/25, - (153\*cos(323/4000)\*exp(-57/800))/80 - (6\*exp(-57/800)\*sin(323/4000))/25, - (153\*cos(51/625)\*exp(-9/125))/80 - (6\*exp(-9/125)\*sin(51/625))/25, - (153\*cos(1649/20000)\*exp(-291/4000))/80 - (6\*exp(-291/4000)\*sin(1649/20000))/25, - (153\*cos(833/10000)\*exp(-147/2000))/80 - (6\*exp(-147/2000)\*sin(833/10000))/25, - (153\*cos(1683/20000)\*exp(-297/4000))/80 - (6\*exp(-297/4000)\*sin(1683/20000))/25, - (153\*cos(17/200)\*exp(-3/40))/80 - (6\*exp(-3/40)\*sin(17/200))/25, - (153\*cos(1717/20000)\*exp(-303/4000))/80 - (6\*exp(-303/4000)\*sin(1717/20000))/25, - (153\*cos(867/10000)\*exp(-153/2000))/80 - (6\*exp(-153/2000)\*sin(867/10000))/25, - (153\*cos(1751/20000)\*exp(-309/4000))/80 -

$(6*\exp(-309/4000)*\sin(1751/20000))/25, - (153*\cos(221/2500)*\exp(-39/500))/80 - (6*\exp(-39/500)*\sin(221/2500))/25, -$   
 $(153*\cos(357/4000)*\exp(-63/800))/80 - (6*\exp(-63/800)*\sin(357/4000))/25, - (153*\cos(901/10000)*\exp(-159/2000))/80 - (6*\exp(-$   
 $159/2000)*\sin(901/10000))/25, - (153*\cos(1819/20000)*\exp(-321/4000))/80 - (6*\exp(-321/4000)*\sin(1819/20000))/25, -$   
 $(153*\cos(459/5000)*\exp(-81/1000))/80 - (6*\exp(-81/1000)*\sin(459/5000))/25, - (153*\cos(1853/20000)*\exp(-327/4000))/80 - (6*\exp(-$   
 $327/4000)*\sin(1853/20000))/25, - (153*\cos(187/2000)*\exp(-33/400))/80 - (6*\exp(-33/400)*\sin(187/2000))/25, -$   
 $(153*\cos(1887/20000)*\exp(-333/4000))/80 - (6*\exp(-333/4000)*\sin(1887/20000))/25, - (153*\cos(119/1250)*\exp(-21/250))/80 - (6*\exp(-$   
 $21/250)*\sin(119/1250))/25, - (153*\cos(1921/20000)*\exp(-339/4000))/80 - (6*\exp(-339/4000)*\sin(1921/20000))/25, -$   
 $(153*\cos(969/10000)*\exp(-171/2000))/80 - (6*\exp(-171/2000)*\sin(969/10000))/25, - (153*\cos(391/4000)*\exp(-69/800))/80 - (6*\exp(-$   
 $69/800)*\sin(391/4000))/25, - (153*\cos(493/5000)*\exp(-87/1000))/80 - (6*\exp(-87/1000)*\sin(493/5000))/25, -$   
 $(153*\cos(1989/20000)*\exp(-351/4000))/80 - (6*\exp(-351/4000)*\sin(1989/20000))/25, - (153*\cos(1003/10000)*\exp(-177/2000))/80 -$   
 $(6*\exp(-177/2000)*\sin(1003/10000))/25, - (153*\cos(2023/20000)*\exp(-357/4000))/80 - (6*\exp(-357/4000)*\sin(2023/20000))/25, -$   
 $(153*\cos(51/500)*\exp(-9/100))/80 - (6*\exp(-9/100)*\sin(51/500))/25, - (153*\cos(2057/20000)*\exp(-363/4000))/80 - (6*\exp(-$   
 $363/4000)*\sin(2057/20000))/25, - (153*\cos(1037/10000)*\exp(-183/2000))/80 - (6*\exp(-183/2000)*\sin(1037/10000))/25, -$   
 $(153*\cos(2091/20000)*\exp(-369/4000))/80 - (6*\exp(-369/4000)*\sin(2091/20000))/25, - (153*\cos(527/5000)*\exp(-93/1000))/80 - (6*\exp(-$   
 $93/1000)*\sin(527/5000))/25, - (153*\cos(17/160)*\exp(-3/32))/80 - (6*\exp(-3/32)*\sin(17/160))/25, - (153*\cos(1071/10000)*\exp(-$   
 $189/2000))/80 - (6*\exp(-189/2000)*\sin(1071/10000))/25, - (153*\cos(2159/20000)*\exp(-381/4000))/80 - (6*\exp(-$   
 $381/4000)*\sin(2159/20000))/25, - (153*\cos(68/625)*\exp(-12/125))/80 - (6*\exp(-12/125)*\sin(68/625))/25, - (153*\cos(2193/20000)*\exp(-$   
 $387/4000))/80 - (6*\exp(-387/4000)*\sin(2193/20000))/25, - (153*\cos(221/2000)*\exp(-39/400))/80 - (6*\exp(-39/400)*\sin(221/2000))/25, -$   
 $(153*\cos(2227/20000)*\exp(-393/4000))/80 - (6*\exp(-393/4000)*\sin(2227/20000))/25, - (153*\cos(561/5000)*\exp(-99/1000))/80 - (6*\exp(-$   
 $99/1000)*\sin(561/5000))/25, - (153*\cos(2261/20000)*\exp(-399/4000))/80 - (6*\exp(-399/4000)*\sin(2261/20000))/25, -$   
 $(153*\cos(1139/10000)*\exp(-201/2000))/80 - (6*\exp(-201/2000)*\sin(1139/10000))/25, - (153*\cos(459/4000)*\exp(-81/800))/80 - (6*\exp(-$   
 $81/800)*\sin(459/4000))/25, - (153*\cos(289/2500)*\exp(-51/500))/80 - (6*\exp(-51/500)*\sin(289/2500))/25, - (153*\cos(2329/20000)*\exp(-$   
 $411/4000))/80 - (6*\exp(-411/4000)*\sin(2329/20000))/25, - (153*\cos(1173/10000)*\exp(-207/2000))/80 - (6*\exp(-$   
 $207/2000)*\sin(1173/10000))/25, - (153*\cos(2363/20000)*\exp(-417/4000))/80 - (6*\exp(-417/4000)*\sin(2363/20000))/25, -$   
 $(153*\cos(119/1000)*\exp(-21/200))/80 - (6*\exp(-21/200)*\sin(119/1000))/25, - (153*\cos(2397/20000)*\exp(-423/4000))/80 - (6*\exp(-$   
 $423/4000)*\sin(2397/20000))/25, - (153*\cos(1207/10000)*\exp(-213/2000))/80 - (6*\exp(-213/2000)*\sin(1207/10000))/25, -$   
 $(153*\cos(2431/20000)*\exp(-429/4000))/80 - (6*\exp(-429/4000)*\sin(2431/20000))/25, - (153*\cos(153/1250)*\exp(-27/250))/80 - (6*\exp(-$   
 $27/250)*\sin(153/1250))/25, - (153*\cos(493/4000)*\exp(-87/800))/80 - (6*\exp(-87/800)*\sin(493/4000))/25, - (153*\cos(1241/10000)*\exp(-$   
 $219/2000))/80 - (6*\exp(-219/2000)*\sin(1241/10000))/25, - (153*\cos(2499/20000)*\exp(-441/4000))/80 - (6*\exp(-$   
 $441/4000)*\sin(2499/20000))/25, - (153*\cos(629/5000)*\exp(-111/1000))/80 - (6*\exp(-111/1000)*\sin(629/5000))/25, -$   
 $(153*\cos(2533/20000)*\exp(-447/4000))/80 - (6*\exp(-447/4000)*\sin(2533/20000))/25, - (153*\cos(51/400)*\exp(-9/80))/80 - (6*\exp(-$   
 $9/80)*\sin(51/400))/25, - (153*\cos(2567/20000)*\exp(-453/4000))/80 - (6*\exp(-453/4000)*\sin(2567/20000))/25, -$   
 $(153*\cos(323/2500)*\exp(-57/500))/80 - (6*\exp(-57/500)*\sin(323/2500))/25, - (153*\cos(2601/20000)*\exp(-459/4000))/80 - (6*\exp(-$   
 $459/4000)*\sin(2601/20000))/25, - (153*\cos(1309/10000)*\exp(-231/2000))/80 - (6*\exp(-231/2000)*\sin(1309/10000))/25, -$   
 $(153*\cos(527/4000)*\exp(-93/800))/80 - (6*\exp(-93/800)*\sin(527/4000))/25, - (153*\cos(663/5000)*\exp(-117/1000))/80 - (6*\exp(-$   
 $117/1000)*\sin(663/5000))/25, - (153*\cos(2669/20000)*\exp(-471/4000))/80 - (6*\exp(-471/4000)*\sin(2669/20000))/25, -$   
 $(153*\cos(1343/10000)*\exp(-237/2000))/80 - (6*\exp(-237/2000)*\sin(1343/10000))/25, - (153*\cos(2703/20000)*\exp(-477/4000))/80 -$   
 $(6*\exp(-477/4000)*\sin(2703/20000))/25, - (153*\cos(17/125)*\exp(-3/25))/80 - (6*\exp(-3/25)*\sin(17/125))/25, -$   
 $(153*\cos(2737/20000)*\exp(-483/4000))/80 - (6*\exp(-483/4000)*\sin(2737/20000))/25, - (153*\cos(1377/10000)*\exp(-243/2000))/80 -$   
 $(6*\exp(-243/2000)*\sin(1377/10000))/25, - (153*\cos(2771/20000)*\exp(-489/4000))/80 - (6*\exp(-489/4000)*\sin(2771/20000))/25, -$   
 $(153*\cos(697/5000)*\exp(-123/1000))/80 - (6*\exp(-123/1000)*\sin(697/5000))/25, - (153*\cos(561/4000)*\exp(-99/800))/80 - (6*\exp(-$   
 $99/800)*\sin(561/4000))/25, - (153*\cos(1411/10000)*\exp(-249/2000))/80 - (6*\exp(-249/2000)*\sin(1411/10000))/25, -$   
 $(153*\cos(2839/20000)*\exp(-501/4000))/80 - (6*\exp(-501/4000)*\sin(2839/20000))/25, - (153*\cos(357/2500)*\exp(-63/500))/80 - (6*\exp(-$   
 $63/500)*\sin(357/2500))/25, - (153*\cos(2873/20000)*\exp(-507/4000))/80 - (6*\exp(-507/4000)*\sin(2873/20000))/25, -$   
 $(153*\cos(289/2000)*\exp(-51/400))/80 - (6*\exp(-51/400)*\sin(289/2000))/25, - (153*\cos(2907/20000)*\exp(-513/4000))/80 - (6*\exp(-$   
 $513/4000)*\sin(2907/20000))/25, - (153*\cos(731/5000)*\exp(-129/1000))/80 - (6*\exp(-129/1000)*\sin(731/5000))/25, -$   
 $(153*\cos(2941/20000)*\exp(-519/4000))/80 - (6*\exp(-519/4000)*\sin(2941/20000))/25, - (153*\cos(1479/10000)*\exp(-261/2000))/80 -$   
 $(6*\exp(-261/2000)*\sin(1479/10000))/25, - (153*\cos(119/800)*\exp(-21/160))/80 - (6*\exp(-21/160)*\sin(119/800))/25, -$   
 $(153*\cos(187/1250)*\exp(-33/250))/80 - (6*\exp(-33/250)*\sin(187/1250))/25, - (153*\cos(3009/20000)*\exp(-531/4000))/80 - (6*\exp(-$   
 $531/4000)*\sin(3009/20000))/25, - (153*\cos(1513/10000)*\exp(-267/2000))/80 - (6*\exp(-267/2000)*\sin(1513/10000))/25, -$   
 $(153*\cos(3043/20000)*\exp(-537/4000))/80 - (6*\exp(-537/4000)*\sin(3043/20000))/25, - (153*\cos(153/1000)*\exp(-27/200))/80 - (6*\exp(-$   
 $27/200)*\sin(153/1000))/25, - (153*\cos(3077/20000)*\exp(-543/4000))/80 - (6*\exp(-543/4000)*\sin(3077/20000))/25, -$   
 $(153*\cos(1547/10000)*\exp(-273/2000))/80 - (6*\exp(-273/2000)*\sin(1547/10000))/25, - (153*\cos(3111/20000)*\exp(-549/4000))/80 -$   
 $(6*\exp(-549/4000)*\sin(3111/20000))/25, - (153*\cos(391/2500)*\exp(-69/500))/80 - (6*\exp(-69/500)*\sin(391/2500))/25, -$   
 $(153*\cos(629/4000)*\exp(-111/800))/80 - (6*\exp(-111/800)*\sin(629/4000))/25, - (153*\cos(1581/10000)*\exp(-279/2000))/80 - (6*\exp(-$   
 $279/2000)*\sin(1581/10000))/25, - (153*\cos(3179/20000)*\exp(-561/4000))/80 - (6*\exp(-561/4000)*\sin(3179/20000))/25, -$   
 $(153*\cos(799/5000)*\exp(-141/1000))/80 - (6*\exp(-141/1000)*\sin(799/5000))/25, - (153*\cos(3213/20000)*\exp(-567/4000))/80 - (6*\exp(-$   
 $567/4000)*\sin(3213/20000))/25, - (153*\cos(323/2000)*\exp(-57/400))/80 - (6*\exp(-57/400)*\sin(323/2000))/25, -$   
 $(153*\cos(3247/20000)*\exp(-573/4000))/80 - (6*\exp(-573/4000)*\sin(3247/20000))/25, - (153*\cos(102/625)*\exp(-18/125))/80 - (6*\exp(-$   
 $18/125)*\sin(102/625))/25, - (153*\cos(3281/20000)*\exp(-579/4000))/80 - (6*\exp(-579/4000)*\sin(3281/20000))/25, -$   
 $(153*\cos(1649/10000)*\exp(-291/2000))/80 - (6*\exp(-291/2000)*\sin(1649/10000))/25, - (153*\cos(663/4000)*\exp(-117/800))/80 - (6*\exp(-$   
 $117/800)*\sin(663/4000))/25, - (153*\cos(833/5000)*\exp(-147/1000))/80 - (6*\exp(-147/1000)*\sin(833/5000))/25, -$   
 $(153*\cos(3349/20000)*\exp(-591/4000))/80 - (6*\exp(-591/4000)*\sin(3349/20000))/25, - (153*\cos(1683/10000)*\exp(-297/2000))/80 -$   
 $(6*\exp(-297/2000)*\sin(1683/10000))/25, - (153*\cos(3383/20000)*\exp(-597/4000))/80 - (6*\exp(-597/4000)*\sin(3383/20000))/25, -$   
 $(153*\cos(17/100)*\exp(-3/20))/80 - (6*\exp(-3/20)*\sin(17/100))/25, - (153*\cos(3417/20000)*\exp(-603/4000))/80 - (6*\exp(-$   
 $603/4000)*\sin(3417/20000))/25, - (153*\cos(1717/10000)*\exp(-303/2000))/80 - (6*\exp(-303/2000)*\sin(1717/10000))/25, -$

$(153 \cdot \cos(3451/20000) \cdot \exp(-609/4000))/80 - (6 \cdot \exp(-609/4000) \cdot \sin(3451/20000))/25, - (153 \cdot \cos(867/5000) \cdot \exp(-153/1000))/80 - (6 \cdot \exp(-153/1000) \cdot \sin(867/5000))/25, - (153 \cdot \cos(697/4000) \cdot \exp(-123/800))/80 - (6 \cdot \exp(-123/800) \cdot \sin(697/4000))/25, - (153 \cdot \cos(1751/10000) \cdot \exp(-309/2000))/80 - (6 \cdot \exp(-309/2000) \cdot \sin(1751/10000))/25, - (153 \cdot \cos(3519/20000) \cdot \exp(-621/4000))/80 - (6 \cdot \exp(-621/4000) \cdot \sin(3519/20000))/25, - (153 \cdot \cos(221/1250) \cdot \exp(-39/250))/80 - (6 \cdot \exp(-39/250) \cdot \sin(221/1250))/25, - (153 \cdot \cos(3553/20000) \cdot \exp(-627/4000))/80 - (6 \cdot \exp(-627/4000) \cdot \sin(3553/20000))/25, - (153 \cdot \cos(357/2000) \cdot \exp(-63/4000))/80 - (6 \cdot \exp(-63/4000) \cdot \sin(357/2000))/25, - (153 \cdot \cos(3587/20000) \cdot \exp(-633/4000))/80 - (6 \cdot \exp(-633/4000) \cdot \sin(3587/20000))/25, - (153 \cdot \cos(901/5000) \cdot \exp(-159/1000))/80 - (6 \cdot \exp(-159/1000) \cdot \sin(901/5000))/25, - (153 \cdot \cos(3621/20000) \cdot \exp(-639/4000))/80 - (6 \cdot \exp(-639/4000) \cdot \sin(3621/20000))/25, - (153 \cdot \cos(1819/10000) \cdot \exp(-321/2000))/80 - (6 \cdot \exp(-321/2000) \cdot \sin(1819/10000))/25, - (153 \cdot \cos(731/4000) \cdot \exp(-129/800))/80 - (6 \cdot \exp(-129/800) \cdot \sin(731/4000))/25, - (153 \cdot \cos(459/2500) \cdot \exp(-81/500))/80 - (6 \cdot \exp(-81/500) \cdot \sin(459/2500))/25, - (153 \cdot \cos(3689/20000) \cdot \exp(-651/4000))/80 - (6 \cdot \exp(-651/4000) \cdot \sin(3689/20000))/25, - (153 \cdot \cos(1853/10000) \cdot \exp(-327/2000))/80 - (6 \cdot \exp(-327/2000) \cdot \sin(1853/10000))/25, - (153 \cdot \cos(3723/20000) \cdot \exp(-657/4000))/80 - (6 \cdot \exp(-657/4000) \cdot \sin(3723/20000))/25, - (153 \cdot \cos(187/1000) \cdot \exp(-33/200))/80 - (6 \cdot \exp(-33/200) \cdot \sin(187/1000))/25, - (153 \cdot \cos(3757/20000) \cdot \exp(-663/4000))/80 - (6 \cdot \exp(-663/4000) \cdot \sin(3757/20000))/25, - (153 \cdot \cos(1887/10000) \cdot \exp(-333/2000))/80 - (6 \cdot \exp(-333/2000) \cdot \sin(1887/10000))/25, - (153 \cdot \cos(3791/20000) \cdot \exp(-669/4000))/80 - (6 \cdot \exp(-669/4000) \cdot \sin(3791/20000))/25, - (153 \cdot \cos(119/625) \cdot \exp(-21/125))/80 - (6 \cdot \exp(-21/125) \cdot \sin(119/625))/25, - (153 \cdot \cos(153/800) \cdot \exp(-27/160))/80 - (6 \cdot \exp(-27/160) \cdot \sin(153/800))/25, - (153 \cdot \cos(1921/10000) \cdot \exp(-339/2000))/80 - (6 \cdot \exp(-339/2000) \cdot \sin(1921/10000))/25, - (153 \cdot \cos(3859/20000) \cdot \exp(-681/4000))/80 - (6 \cdot \exp(-681/4000) \cdot \sin(3859/20000))/25, - (153 \cdot \cos(969/5000) \cdot \exp(-171/1000))/80 - (6 \cdot \exp(-171/1000) \cdot \sin(969/5000))/25, - (153 \cdot \cos(3893/20000) \cdot \exp(-687/4000))/80 - (6 \cdot \exp(-687/4000) \cdot \sin(3893/20000))/25, - (153 \cdot \cos(391/2000) \cdot \exp(-69/400))/80 - (6 \cdot \exp(-69/400) \cdot \sin(391/2000))/25, - (153 \cdot \cos(3927/20000) \cdot \exp(-693/4000))/80 - (6 \cdot \exp(-693/4000) \cdot \sin(3927/20000))/25, - (153 \cdot \cos(493/2500) \cdot \exp(-87/500))/80 - (6 \cdot \exp(-87/500) \cdot \sin(493/2500))/25, - (153 \cdot \cos(3961/20000) \cdot \exp(-699/4000))/80 - (6 \cdot \exp(-699/4000) \cdot \sin(3961/20000))/25, - (153 \cdot \cos(1989/10000) \cdot \exp(-351/2000))/80 - (6 \cdot \exp(-351/2000) \cdot \sin(1989/10000))/25, - (153 \cdot \cos(799/4000) \cdot \exp(-141/800))/80 - (6 \cdot \exp(-141/800) \cdot \sin(799/4000))/25, - (153 \cdot \cos(1003/5000) \cdot \exp(-177/1000))/80 - (6 \cdot \exp(-177/1000) \cdot \sin(1003/5000))/25, - (153 \cdot \cos(4029/20000) \cdot \exp(-711/4000))/80 - (6 \cdot \exp(-711/4000) \cdot \sin(4029/20000))/25, - (153 \cdot \cos(2023/10000) \cdot \exp(-357/2000))/80 - (6 \cdot \exp(-357/2000) \cdot \sin(2023/10000))/25, - (153 \cdot \cos(4063/20000) \cdot \exp(-717/4000))/80 - (6 \cdot \exp(-717/4000) \cdot \sin(4063/20000))/25, - (153 \cdot \cos(51/250) \cdot \exp(-9/50))/80 - (6 \cdot \exp(-9/50) \cdot \sin(51/250))/25, - (153 \cdot \cos(4097/20000) \cdot \exp(-723/4000))/80 - (6 \cdot \exp(-723/4000) \cdot \sin(4097/20000))/25, - (153 \cdot \cos(2057/10000) \cdot \exp(-363/2000))/80 - (6 \cdot \exp(-363/2000) \cdot \sin(2057/10000))/25, - (153 \cdot \cos(4131/20000) \cdot \exp(-729/4000))/80 - (6 \cdot \exp(-729/4000) \cdot \sin(4131/20000))/25, - (153 \cdot \cos(1037/5000) \cdot \exp(-183/1000))/80 - (6 \cdot \exp(-183/1000) \cdot \sin(1037/5000))/25, - (153 \cdot \cos(833/4000) \cdot \exp(-147/800))/80 - (6 \cdot \exp(-147/800) \cdot \sin(833/4000))/25, - (153 \cdot \cos(2091/10000) \cdot \exp(-369/2000))/80 - (6 \cdot \exp(-369/2000) \cdot \sin(2091/10000))/25, - (153 \cdot \cos(4199/20000) \cdot \exp(-741/4000))/80 - (6 \cdot \exp(-741/4000) \cdot \sin(4199/20000))/25, - (153 \cdot \cos(527/2500) \cdot \exp(-93/500))/80 - (6 \cdot \exp(-93/500) \cdot \sin(527/2500))/25, - (153 \cdot \cos(4233/20000) \cdot \exp(-747/4000))/80 - (6 \cdot \exp(-747/4000) \cdot \sin(4233/20000))/25, - (153 \cdot \cos(17/80) \cdot \exp(-3/16))/80 - (6 \cdot \exp(-3/16) \cdot \sin(17/80))/25, - (153 \cdot \cos(4267/20000) \cdot \exp(-753/4000))/80 - (6 \cdot \exp(-753/4000) \cdot \sin(4267/20000))/25, - (153 \cdot \cos(1071/5000) \cdot \exp(-189/1000))/80 - (6 \cdot \exp(-189/1000) \cdot \sin(1071/5000))/25, - (153 \cdot \cos(4301/20000) \cdot \exp(-759/4000))/80 - (6 \cdot \exp(-759/4000) \cdot \sin(4301/20000))/25, - (153 \cdot \cos(2159/10000) \cdot \exp(-381/2000))/80 - (6 \cdot \exp(-381/2000) \cdot \sin(2159/10000))/25, - (153 \cdot \cos(867/4000) \cdot \exp(-153/800))/80 - (6 \cdot \exp(-153/800) \cdot \sin(867/4000))/25, - (153 \cdot \cos(136/625) \cdot \exp(-24/125))/80 - (6 \cdot \exp(-24/125) \cdot \sin(136/625))/25, - (153 \cdot \cos(4369/20000) \cdot \exp(-771/4000))/80 - (6 \cdot \exp(-771/4000) \cdot \sin(4369/20000))/25, - (153 \cdot \cos(2193/10000) \cdot \exp(-387/2000))/80 - (6 \cdot \exp(-387/2000) \cdot \sin(2193/10000))/25, - (153 \cdot \cos(4403/20000) \cdot \exp(-777/4000))/80 - (6 \cdot \exp(-777/4000) \cdot \sin(4403/20000))/25, - (153 \cdot \cos(221/1000) \cdot \exp(-39/200))/80 - (6 \cdot \exp(-39/200) \cdot \sin(221/1000))/25, - (153 \cdot \cos(4437/20000) \cdot \exp(-783/4000))/80 - (6 \cdot \exp(-783/4000) \cdot \sin(4437/20000))/25, - (153 \cdot \cos(2227/10000) \cdot \exp(-393/2000))/80 - (6 \cdot \exp(-393/2000) \cdot \sin(2227/10000))/25, - (153 \cdot \cos(4471/20000) \cdot \exp(-789/4000))/80 - (6 \cdot \exp(-789/4000) \cdot \sin(4471/20000))/25, - (153 \cdot \cos(561/2500) \cdot \exp(-99/500))/80 - (6 \cdot \exp(-99/500) \cdot \sin(561/2500))/25, - (153 \cdot \cos(901/4000) \cdot \exp(-159/800))/80 - (6 \cdot \exp(-159/800) \cdot \sin(901/4000))/25, - (153 \cdot \cos(2261/10000) \cdot \exp(-399/2000))/80 - (6 \cdot \exp(-399/2000) \cdot \sin(2261/10000))/25, - (153 \cdot \cos(4539/20000) \cdot \exp(-801/4000))/80 - (6 \cdot \exp(-801/4000) \cdot \sin(4539/20000))/25, - (153 \cdot \cos(1139/5000) \cdot \exp(-201/1000))/80 - (6 \cdot \exp(-201/1000) \cdot \sin(1139/5000))/25, - (153 \cdot \cos(4573/20000) \cdot \exp(-807/4000))/80 - (6 \cdot \exp(-807/4000) \cdot \sin(4573/20000))/25, - (153 \cdot \cos(459/2000) \cdot \exp(-81/400))/80 - (6 \cdot \exp(-81/400) \cdot \sin(459/2000))/25, - (153 \cdot \cos(4607/20000) \cdot \exp(-813/4000))/80 - (6 \cdot \exp(-813/4000) \cdot \sin(4607/20000))/25, - (153 \cdot \cos(289/1250) \cdot \exp(-51/250))/80 - (6 \cdot \exp(-51/250) \cdot \sin(289/1250))/25, - (153 \cdot \cos(4641/20000) \cdot \exp(-819/4000))/80 - (6 \cdot \exp(-819/4000) \cdot \sin(4641/20000))/25, - (153 \cdot \cos(2329/10000) \cdot \exp(-411/2000))/80 - (6 \cdot \exp(-411/2000) \cdot \sin(2329/10000))/25, - (153 \cdot \cos(187/800) \cdot \exp(-33/160))/80 - (6 \cdot \exp(-33/160) \cdot \sin(187/800))/25, - (153 \cdot \cos(1173/5000) \cdot \exp(-207/1000))/80 - (6 \cdot \exp(-207/1000) \cdot \sin(1173/5000))/25, - (153 \cdot \cos(4709/20000) \cdot \exp(-831/4000))/80 - (6 \cdot \exp(-831/4000) \cdot \sin(4709/20000))/25, - (153 \cdot \cos(2363/10000) \cdot \exp(-417/2000))/80 - (6 \cdot \exp(-417/2000) \cdot \sin(2363/10000))/25, - (153 \cdot \cos(4743/20000) \cdot \exp(-837/4000))/80 - (6 \cdot \exp(-837/4000) \cdot \sin(4743/20000))/25, - (153 \cdot \cos(119/500) \cdot \exp(-21/100))/80 - (6 \cdot \exp(-21/100) \cdot \sin(119/500))/25, - (153 \cdot \cos(4777/20000) \cdot \exp(-843/4000))/80 - (6 \cdot \exp(-843/4000) \cdot \sin(4777/20000))/25, - (153 \cdot \cos(2397/10000) \cdot \exp(-423/2000))/80 - (6 \cdot \exp(-423/2000) \cdot \sin(2397/10000))/25, - (153 \cdot \cos(4811/20000) \cdot \exp(-849/4000))/80 - (6 \cdot \exp(-849/4000) \cdot \sin(4811/20000))/25, - (153 \cdot \cos(1207/5000) \cdot \exp(-213/1000))/80 - (6 \cdot \exp(-213/1000) \cdot \sin(1207/5000))/25, - (153 \cdot \cos(969/4000) \cdot \exp(-171/800))/80 - (6 \cdot \exp(-171/800) \cdot \sin(969/4000))/25, - (153 \cdot \cos(2431/10000) \cdot \exp(-429/2000))/80 - (6 \cdot \exp(-429/2000) \cdot \sin(2431/10000))/25, - (153 \cdot \cos(4879/20000) \cdot \exp(-861/4000))/80 - (6 \cdot \exp(-861/4000) \cdot \sin(4879/20000))/25, - (153 \cdot \cos(153/625) \cdot \exp(-27/125))/80 - (6 \cdot \exp(-27/125) \cdot \sin(153/625))/25, - (153 \cdot \cos(4913/20000) \cdot \exp(-867/4000))/80 - (6 \cdot \exp(-867/4000) \cdot \sin(4913/20000))/25, - (153 \cdot \cos(493/2000) \cdot \exp(-87/400))/80 - (6 \cdot \exp(-87/400) \cdot \sin(493/2000))/25, - (153 \cdot \cos(4947/20000) \cdot \exp(-873/4000))/80 - (6 \cdot \exp(-873/4000) \cdot \sin(4947/20000))/25, - (153 \cdot \cos(1241/5000) \cdot \exp(-219/1000))/80 - (6 \cdot \exp(-219/1000) \cdot \sin(1241/5000))/25, - (153 \cdot \cos(4981/20000) \cdot \exp(-879/4000))/80 - (6 \cdot \exp(-879/4000) \cdot \sin(4981/20000))/25, - (153 \cdot \cos(2499/10000) \cdot \exp(-441/2000))/80 - (6 \cdot \exp(-441/2000) \cdot \sin(2499/10000))/25, - (153 \cdot \cos(1003/4000) \cdot \exp(-177/800))/80 - (6 \cdot \exp(-177/800) \cdot \sin(1003/4000))/25, - (153 \cdot \cos(629/2500) \cdot \exp(-111/500))/80 - (6 \cdot \exp(-111/500) \cdot \sin(629/2500))/25, - (153 \cdot \cos(5049/20000) \cdot \exp(-891/4000))/80 - (6 \cdot \exp(-891/4000) \cdot \sin(5049/20000))/25, - (153 \cdot \cos(2533/10000) \cdot \exp(-447/2000))/80 - (6 \cdot \exp(-447/2000) \cdot \sin(2533/10000))/25, - (153 \cdot \cos(5083/20000) \cdot \exp(-897/4000))/80 - (6 \cdot \exp(-897/4000) \cdot \sin(5083/20000))/25, - (153 \cdot \cos(51/200) \cdot \exp(-9/40))/80 - (6 \cdot \exp(-9/40) \cdot \sin(51/200))/25, - (153 \cdot \cos(5117/20000) \cdot \exp(-903/4000))/80 - (6 \cdot \exp(-903/4000) \cdot \sin(5117/20000))/25, -$

$(153 \cdot \cos(2567/10000) \cdot \exp(-453/2000))/80 - (6 \cdot \exp(-453/2000) \cdot \sin(2567/10000))/25, - (153 \cdot \cos(5151/20000) \cdot \exp(-909/4000))/80 - (6 \cdot \exp(-909/4000) \cdot \sin(5151/20000))/25, - (153 \cdot \cos(323/1250) \cdot \exp(-57/250))/80 - (6 \cdot \exp(-57/250) \cdot \sin(323/1250))/25, - (153 \cdot \cos(1037/4000) \cdot \exp(-183/800))/80 - (6 \cdot \exp(-183/800) \cdot \sin(1037/4000))/25, - (153 \cdot \cos(2601/10000) \cdot \exp(-459/2000))/80 - (6 \cdot \exp(-459/2000) \cdot \sin(2601/10000))/25, - (153 \cdot \cos(5219/20000) \cdot \exp(-921/4000))/80 - (6 \cdot \exp(-921/4000) \cdot \sin(5219/20000))/25, - (153 \cdot \cos(1309/5000) \cdot \exp(-231/1000))/80 - (6 \cdot \exp(-231/1000) \cdot \sin(1309/5000))/25, - (153 \cdot \cos(5253/20000) \cdot \exp(-927/4000))/80 - (6 \cdot \exp(-927/4000) \cdot \sin(5253/20000))/25, - (153 \cdot \cos(527/2000) \cdot \exp(-93/400))/80 - (6 \cdot \exp(-93/400) \cdot \sin(527/2000))/25, - (153 \cdot \cos(5287/20000) \cdot \exp(-933/4000))/80 - (6 \cdot \exp(-933/4000) \cdot \sin(5287/20000))/25, - (153 \cdot \cos(663/2500) \cdot \exp(-117/500))/80 - (6 \cdot \exp(-117/500) \cdot \sin(663/2500))/25, - (153 \cdot \cos(5321/20000) \cdot \exp(-939/4000))/80 - (6 \cdot \exp(-939/4000) \cdot \sin(5321/20000))/25, - (153 \cdot \cos(2669/10000) \cdot \exp(-471/2000))/80 - (6 \cdot \exp(-471/2000) \cdot \sin(2669/10000))/25, - (153 \cdot \cos(1071/4000) \cdot \exp(-189/800))/80 - (6 \cdot \exp(-189/800) \cdot \sin(1071/4000))/25, - (153 \cdot \cos(1343/5000) \cdot \exp(-237/1000))/80 - (6 \cdot \exp(-237/1000) \cdot \sin(1343/5000))/25, - (153 \cdot \cos(5389/20000) \cdot \exp(-951/4000))/80 - (6 \cdot \exp(-951/4000) \cdot \sin(5389/20000))/25, - (153 \cdot \cos(2703/10000) \cdot \exp(-477/2000))/80 - (6 \cdot \exp(-477/2000) \cdot \sin(2703/10000))/25, - (153 \cdot \cos(5423/20000) \cdot \exp(-957/4000))/80 - (6 \cdot \exp(-957/4000) \cdot \sin(5423/20000))/25, - (153 \cdot \cos(34/125) \cdot \exp(-6/25))/80 - (6 \cdot \exp(-6/25) \cdot \sin(34/125))/25, - (153 \cdot \cos(5457/20000) \cdot \exp(-963/4000))/80 - (6 \cdot \exp(-963/4000) \cdot \sin(5457/20000))/25, - (153 \cdot \cos(2737/10000) \cdot \exp(-483/2000))/80 - (6 \cdot \exp(-483/2000) \cdot \sin(2737/10000))/25, - (153 \cdot \cos(5491/20000) \cdot \exp(-969/4000))/80 - (6 \cdot \exp(-969/4000) \cdot \sin(5491/20000))/25, - (153 \cdot \cos(1377/5000) \cdot \exp(-243/1000))/80 - (6 \cdot \exp(-243/1000) \cdot \sin(1377/5000))/25, - (153 \cdot \cos(221/800) \cdot \exp(-39/160))/80 - (6 \cdot \exp(-39/160) \cdot \sin(221/800))/25, - (153 \cdot \cos(2771/10000) \cdot \exp(-489/2000))/80 - (6 \cdot \exp(-489/2000) \cdot \sin(2771/10000))/25, - (153 \cdot \cos(5559/20000) \cdot \exp(-981/4000))/80 - (6 \cdot \exp(-981/4000) \cdot \sin(5559/20000))/25, - (153 \cdot \cos(697/2500) \cdot \exp(-123/500))/80 - (6 \cdot \exp(-123/500) \cdot \sin(697/2500))/25, - (153 \cdot \cos(5593/20000) \cdot \exp(-987/4000))/80 - (6 \cdot \exp(-987/4000) \cdot \sin(5593/20000))/25, - (153 \cdot \cos(561/2000) \cdot \exp(-99/400))/80 - (6 \cdot \exp(-99/400) \cdot \sin(561/2000))/25, - (153 \cdot \cos(5627/20000) \cdot \exp(-993/4000))/80 - (6 \cdot \exp(-993/4000) \cdot \sin(5627/20000))/25, - (153 \cdot \cos(1411/5000) \cdot \exp(-249/1000))/80 - (6 \cdot \exp(-249/1000) \cdot \sin(1411/5000))/25, - (153 \cdot \cos(5661/20000) \cdot \exp(-999/4000))/80 - (6 \cdot \exp(-999/4000) \cdot \sin(5661/20000))/25, - (153 \cdot \cos(2839/10000) \cdot \exp(-501/2000))/80 - (6 \cdot \exp(-501/2000) \cdot \sin(2839/10000))/25, - (153 \cdot \cos(1139/4000) \cdot \exp(-201/800))/80 - (6 \cdot \exp(-201/800) \cdot \sin(1139/4000))/25, - (153 \cdot \cos(357/1250) \cdot \exp(-63/250))/80 - (6 \cdot \exp(-63/250) \cdot \sin(357/1250))/25, - (153 \cdot \cos(5729/20000) \cdot \exp(-1011/4000))/80 - (6 \cdot \exp(-1011/4000) \cdot \sin(5729/20000))/25, - (153 \cdot \cos(2873/10000) \cdot \exp(-507/2000))/80 - (6 \cdot \exp(-507/2000) \cdot \sin(2873/10000))/25, - (153 \cdot \cos(5763/20000) \cdot \exp(-1017/4000))/80 - (6 \cdot \exp(-1017/4000) \cdot \sin(5763/20000))/25, - (153 \cdot \cos(289/1000) \cdot \exp(-51/200))/80 - (6 \cdot \exp(-51/200) \cdot \sin(289/1000))/25, - (153 \cdot \cos(5797/20000) \cdot \exp(-1023/4000))/80 - (6 \cdot \exp(-1023/4000) \cdot \sin(5797/20000))/25, - (153 \cdot \cos(2907/10000) \cdot \exp(-513/2000))/80 - (6 \cdot \exp(-513/2000) \cdot \sin(2907/10000))/25, - (153 \cdot \cos(5831/20000) \cdot \exp(-1029/4000))/80 - (6 \cdot \exp(-1029/4000) \cdot \sin(5831/20000))/25, - (153 \cdot \cos(731/2500) \cdot \exp(-129/500))/80 - (6 \cdot \exp(-129/500) \cdot \sin(731/2500))/25, - (153 \cdot \cos(1173/4000) \cdot \exp(-207/800))/80 - (6 \cdot \exp(-207/800) \cdot \sin(1173/4000))/25, - (153 \cdot \cos(2941/10000) \cdot \exp(-519/2000))/80 - (6 \cdot \exp(-519/2000) \cdot \sin(2941/10000))/25, - (153 \cdot \cos(5899/20000) \cdot \exp(-1041/4000))/80 - (6 \cdot \exp(-1041/4000) \cdot \sin(5899/20000))/25, - (153 \cdot \cos(1479/5000) \cdot \exp(-261/1000))/80 - (6 \cdot \exp(-261/1000) \cdot \sin(1479/5000))/25, - (153 \cdot \cos(5933/20000) \cdot \exp(-1047/4000))/80 - (6 \cdot \exp(-1047/4000) \cdot \sin(5933/20000))/25, - (153 \cdot \cos(119/400) \cdot \exp(-21/80))/80 - (6 \cdot \exp(-21/80) \cdot \sin(119/400))/25, - (153 \cdot \cos(5967/20000) \cdot \exp(-1053/4000))/80 - (6 \cdot \exp(-1053/4000) \cdot \sin(5967/20000))/25, - (153 \cdot \cos(187/625) \cdot \exp(-33/125))/80 - (6 \cdot \exp(-33/125) \cdot \sin(187/625))/25, - (153 \cdot \cos(6001/20000) \cdot \exp(-1059/4000))/80 - (6 \cdot \exp(-1059/4000) \cdot \sin(6001/20000))/25, - (153 \cdot \cos(3009/10000) \cdot \exp(-531/2000))/80 - (6 \cdot \exp(-531/2000) \cdot \sin(3009/10000))/25, - (153 \cdot \cos(1207/4000) \cdot \exp(-213/800))/80 - (6 \cdot \exp(-213/800) \cdot \sin(1207/4000))/25, - (153 \cdot \cos(1513/5000) \cdot \exp(-267/1000))/80 - (6 \cdot \exp(-267/1000) \cdot \sin(1513/5000))/25, - (153 \cdot \cos(6069/20000) \cdot \exp(-1071/4000))/80 - (6 \cdot \exp(-1071/4000) \cdot \sin(6069/20000))/25, - (153 \cdot \cos(3043/10000) \cdot \exp(-537/2000))/80 - (6 \cdot \exp(-537/2000) \cdot \sin(3043/10000))/25, - (153 \cdot \cos(6103/20000) \cdot \exp(-1077/4000))/80 - (6 \cdot \exp(-1077/4000) \cdot \sin(6103/20000))/25, - (153 \cdot \cos(153/500) \cdot \exp(-27/100))/80 - (6 \cdot \exp(-27/100) \cdot \sin(153/500))/25, - (153 \cdot \cos(6137/20000) \cdot \exp(-1083/4000))/80 - (6 \cdot \exp(-1083/4000) \cdot \sin(6137/20000))/25, - (153 \cdot \cos(3077/10000) \cdot \exp(-543/2000))/80 - (6 \cdot \exp(-543/2000) \cdot \sin(3077/10000))/25, - (153 \cdot \cos(6171/20000) \cdot \exp(-1089/4000))/80 - (6 \cdot \exp(-1089/4000) \cdot \sin(6171/20000))/25, - (153 \cdot \cos(1547/5000) \cdot \exp(-273/1000))/80 - (6 \cdot \exp(-273/1000) \cdot \sin(1547/5000))/25, - (153 \cdot \cos(1241/4000) \cdot \exp(-219/800))/80 - (6 \cdot \exp(-219/800) \cdot \sin(1241/4000))/25, - (153 \cdot \cos(3111/10000) \cdot \exp(-549/2000))/80 - (6 \cdot \exp(-549/2000) \cdot \sin(3111/10000))/25, - (153 \cdot \cos(6239/20000) \cdot \exp(-1101/4000))/80 - (6 \cdot \exp(-1101/4000) \cdot \sin(6239/20000))/25, - (153 \cdot \cos(391/1250) \cdot \exp(-69/250))/80 - (6 \cdot \exp(-69/250) \cdot \sin(391/1250))/25, - (153 \cdot \cos(6273/20000) \cdot \exp(-1107/4000))/80 - (6 \cdot \exp(-1107/4000) \cdot \sin(6273/20000))/25, - (153 \cdot \cos(629/2000) \cdot \exp(-111/400))/80 - (6 \cdot \exp(-111/400) \cdot \sin(629/2000))/25, - (153 \cdot \cos(6307/20000) \cdot \exp(-1113/4000))/80 - (6 \cdot \exp(-1113/4000) \cdot \sin(6307/20000))/25, - (153 \cdot \cos(1581/5000) \cdot \exp(-279/1000))/80 - (6 \cdot \exp(-279/1000) \cdot \sin(1581/5000))/25, - (153 \cdot \cos(6341/20000) \cdot \exp(-1119/4000))/80 - (6 \cdot \exp(-1119/4000) \cdot \sin(6341/20000))/25, - (153 \cdot \cos(3179/10000) \cdot \exp(-561/2000))/80 - (6 \cdot \exp(-561/2000) \cdot \sin(3179/10000))/25, - (153 \cdot \cos(51/160) \cdot \exp(-9/32))/80 - (6 \cdot \exp(-9/32) \cdot \sin(51/160))/25, - (153 \cdot \cos(799/2500) \cdot \exp(-141/500))/80 - (6 \cdot \exp(-141/500) \cdot \sin(799/2500))/25, - (153 \cdot \cos(6409/20000) \cdot \exp(-1131/4000))/80 - (6 \cdot \exp(-1131/4000) \cdot \sin(6409/20000))/25, - (153 \cdot \cos(3213/10000) \cdot \exp(-567/2000))/80 - (6 \cdot \exp(-567/2000) \cdot \sin(3213/10000))/25, - (153 \cdot \cos(6443/20000) \cdot \exp(-1137/4000))/80 - (6 \cdot \exp(-1137/4000) \cdot \sin(6443/20000))/25, - (153 \cdot \cos(323/1000) \cdot \exp(-57/200))/80 - (6 \cdot \exp(-57/200) \cdot \sin(323/1000))/25, - (153 \cdot \cos(6477/20000) \cdot \exp(-1143/4000))/80 - (6 \cdot \exp(-1143/4000) \cdot \sin(6477/20000))/25, - (153 \cdot \cos(3247/10000) \cdot \exp(-573/2000))/80 - (6 \cdot \exp(-573/2000) \cdot \sin(3247/10000))/25, - (153 \cdot \cos(6511/20000) \cdot \exp(-1149/4000))/80 - (6 \cdot \exp(-1149/4000) \cdot \sin(6511/20000))/25, - (153 \cdot \cos(204/625) \cdot \exp(-36/125))/80 - (6 \cdot \exp(-36/125) \cdot \sin(204/625))/25, - (153 \cdot \cos(1309/4000) \cdot \exp(-231/800))/80 - (6 \cdot \exp(-231/800) \cdot \sin(1309/4000))/25, - (153 \cdot \cos(3281/10000) \cdot \exp(-579/2000))/80 - (6 \cdot \exp(-579/2000) \cdot \sin(3281/10000))/25, - (153 \cdot \cos(6579/20000) \cdot \exp(-1161/4000))/80 - (6 \cdot \exp(-1161/4000) \cdot \sin(6579/20000))/25, - (153 \cdot \cos(1649/5000) \cdot \exp(-291/1000))/80 - (6 \cdot \exp(-291/1000) \cdot \sin(1649/5000))/25, - (153 \cdot \cos(6613/20000) \cdot \exp(-1167/4000))/80 - (6 \cdot \exp(-1167/4000) \cdot \sin(6613/20000))/25, - (153 \cdot \cos(663/2000) \cdot \exp(-117/400))/80 - (6 \cdot \exp(-117/400) \cdot \sin(663/2000))/25, - (153 \cdot \cos(6647/20000) \cdot \exp(-1173/4000))/80 - (6 \cdot \exp(-1173/4000) \cdot \sin(6647/20000))/25, - (153 \cdot \cos(833/2500) \cdot \exp(-147/500))/80 - (6 \cdot \exp(-147/500) \cdot \sin(833/2500))/25, - (153 \cdot \cos(6681/20000) \cdot \exp(-1179/4000))/80 - (6 \cdot \exp(-1179/4000) \cdot \sin(6681/20000))/25, - (153 \cdot \cos(3349/10000) \cdot \exp(-591/2000))/80 - (6 \cdot \exp(-591/2000) \cdot \sin(3349/10000))/25, - (153 \cdot \cos(1343/4000) \cdot \exp(-237/800))/80 - (6 \cdot \exp(-237/800) \cdot \sin(1343/4000))/25, - (153 \cdot \cos(1683/5000) \cdot \exp(-297/1000))/80 - (6 \cdot \exp(-297/1000) \cdot \sin(1683/5000))/25, - (153 \cdot \cos(6749/20000) \cdot \exp(-1191/4000))/80 - (6 \cdot \exp(-1191/4000) \cdot \sin(6749/20000))/25, - (153 \cdot \cos(3383/10000) \cdot \exp(-597/2000))/80 - (6 \cdot \exp(-597/2000) \cdot \sin(3383/10000))/25, - (153 \cdot \cos(6783/20000) \cdot \exp(-1197/4000))/80 - (6 \cdot \exp(-1197/4000) \cdot \sin(6783/20000))/25, - (153 \cdot \cos(17/50) \cdot \exp(-3/10))/80 - (6 \cdot \exp(-3/10) \cdot \sin(17/50))/25, -$

(153\*cos(6817/20000)\*exp(-1203/4000))/80 - (6\*exp(-1203/4000)\*sin(6817/20000))/25, - (153\*cos(3417/10000)\*exp(-603/2000))/80 - (6\*exp(-603/2000)\*sin(3417/10000))/25, - (153\*cos(6851/20000)\*exp(-1209/4000))/80 - (6\*exp(-1209/4000)\*sin(6851/20000))/25, - (153\*cos(1717/5000)\*exp(-303/1000))/80 - (6\*exp(-303/1000)\*sin(1717/5000))/25, - (153\*cos(1377/4000)\*exp(-243/800))/80 - (6\*exp(-243/800)\*sin(1377/4000))/25, - (153\*cos(3451/10000)\*exp(-609/2000))/80 - (6\*exp(-609/2000)\*sin(3451/10000))/25, - (153\*cos(6919/20000)\*exp(-1221/4000))/80 - (6\*exp(-1221/4000)\*sin(6919/20000))/25, - (153\*cos(867/2500)\*exp(-153/500))/80 - (6\*exp(-153/500)\*sin(867/2500))/25, - (153\*cos(6953/20000)\*exp(-1227/4000))/80 - (6\*exp(-1227/4000)\*sin(6953/20000))/25, - (153\*cos(697/2000)\*exp(-123/400))/80 - (6\*exp(-123/400)\*sin(697/2000))/25, - (153\*cos(6987/20000)\*exp(-1233/4000))/80 - (6\*exp(-1233/4000)\*sin(6987/20000))/25, - (153\*cos(1751/5000)\*exp(-309/1000))/... Output truncated. Text exceeds maximum line length for Command Window display.

>>

## (c) MATLAB code

```
commandwindow
```

```
clear
```

```
clc
```

```
close all
```

```
syms x
```

```
y=5*(sin(5*x))^5
```

```
vx=pi*y^2
```

```
v=int(vx)
```

```
vd=int(vx,pi,0)
```

## Output obtained

y =

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

vx =

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

v =

$$\frac{\pi(12600x - 2100\sin(10x) + 600\sin(20x) - 150\sin(30x) + 25\sin(40x) - 2\sin(50x))}{2048}$$

vd =

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

>>