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Computer engineering

16/MHS01/029

ENG 381 TEST

```
1. commandwindow
clear
clc
close all
syms y(t)
tn=[0:0.1:50]
v= diff(y,t,2)+5*diff(y,t,1)+6*y==cos(t)
dy=diff(y,t)
vcond=[y(0)==5, dy(0)==3]
z=dsolve(v,vcond)
j=subs(z,tn)
plot(tn,j)
xlabel('time(min)')
ylabel('vibrations')
grid on
grid minor
axis tight
```

Answer:

tn =

Columns 1 through 12

	0	0.1000	0.2000	0.3000	0.4000	0.5000
0.6000	0.7000	0.8000	0.9000	1.0000	1.1000	

Columns 13 through 24

	1.2000	1.3000	1.4000	1.5000	1.6000	1.7000
1.8000	1.9000	2.0000	2.1000	2.2000	2.3000	

Columns 25 through 36

	2.4000	2.5000	2.6000	2.7000	2.8000	2.9000
3.0000	3.1000	3.2000	3.3000	3.4000	3.5000	

Columns 37 through 48

3.6000 3.7000 3.8000 3.9000 4.0000 4.1000
4.2000 4.3000 4.4000 4.5000 4.6000 4.7000

Columns 49 through 60

4.8000 4.9000 5.0000 5.1000 5.2000 5.3000
5.4000 5.5000 5.6000 5.7000 5.8000 5.9000

Columns 61 through 72

6.0000 6.1000 6.2000 6.3000 6.4000 6.5000
6.6000 6.7000 6.8000 6.9000 7.0000 7.1000

Columns 73 through 84

7.2000 7.3000 7.4000 7.5000 7.6000 7.7000
7.8000 7.9000 8.0000 8.1000 8.2000 8.3000

Columns 85 through 96

8.4000 8.5000 8.6000 8.7000 8.8000 8.9000
9.0000 9.1000 9.2000 9.3000 9.4000 9.5000

Columns 97 through 108

9.6000 9.7000 9.8000 9.9000 10.0000 10.1000
10.2000 10.3000 10.4000 10.5000 10.6000 10.7000

Columns 109 through 120

10.8000 10.9000 11.0000 11.1000 11.2000 11.3000
11.4000 11.5000 11.6000 11.7000 11.8000 11.9000

Columns 121 through 132

12.0000 12.1000 12.2000 12.3000 12.4000 12.5000
12.6000 12.7000 12.8000 12.9000 13.0000 13.1000

Columns 133 through 144

13.2000 13.3000 13.4000 13.5000 13.6000 13.7000
13.8000 13.9000 14.0000 14.1000 14.2000 14.3000

Columns 145 through 156

14.4000 14.5000 14.6000 14.7000 14.8000 14.9000
15.0000 15.1000 15.2000 15.3000 15.4000 15.5000

Columns 157 through 168

15.6000	15.7000	15.8000	15.9000	16.0000	16.1000
16.2000	16.3000	16.4000	16.5000	16.6000	16.7000

Columns 169 through 180

16.8000	16.9000	17.0000	17.1000	17.2000	17.3000
17.4000	17.5000	17.6000	17.7000	17.8000	17.9000

Columns 181 through 192

18.0000	18.1000	18.2000	18.3000	18.4000	18.5000
18.6000	18.7000	18.8000	18.9000	19.0000	19.1000

Columns 193 through 204

19.2000	19.3000	19.4000	19.5000	19.6000	19.7000
19.8000	19.9000	20.0000	20.1000	20.2000	20.3000

Columns 205 through 216

20.4000	20.5000	20.6000	20.7000	20.8000	20.9000
21.0000	21.1000	21.2000	21.3000	21.4000	21.5000

Columns 217 through 228

21.6000	21.7000	21.8000	21.9000	22.0000	22.1000
22.2000	22.3000	22.4000	22.5000	22.6000	22.7000

Columns 229 through 240

22.8000	22.9000	23.0000	23.1000	23.2000	23.3000
23.4000	23.5000	23.6000	23.7000	23.8000	23.9000

Columns 241 through 252

24.0000	24.1000	24.2000	24.3000	24.4000	24.5000
24.6000	24.7000	24.8000	24.9000	25.0000	25.1000

Columns 253 through 264

25.2000	25.3000	25.4000	25.5000	25.6000	25.7000
25.8000	25.9000	26.0000	26.1000	26.2000	26.3000

Columns 265 through 276

26.4000 26.5000 26.6000 26.7000 26.8000 26.9000
27.0000 27.1000 27.2000 27.3000 27.4000 27.5000

Columns 277 through 288

27.6000 27.7000 27.8000 27.9000 28.0000 28.1000
28.2000 28.3000 28.4000 28.5000 28.6000 28.7000

Columns 289 through 300

28.8000 28.9000 29.0000 29.1000 29.2000 29.3000
29.4000 29.5000 29.6000 29.7000 29.8000 29.9000

Columns 301 through 312

30.0000 30.1000 30.2000 30.3000 30.4000 30.5000
30.6000 30.7000 30.8000 30.9000 31.0000 31.1000

Columns 313 through 324

31.2000 31.3000 31.4000 31.5000 31.6000 31.7000
31.8000 31.9000 32.0000 32.1000 32.2000 32.3000

Columns 325 through 336

32.4000 32.5000 32.6000 32.7000 32.8000 32.9000
33.0000 33.1000 33.2000 33.3000 33.4000 33.5000

Columns 337 through 348

33.6000 33.7000 33.8000 33.9000 34.0000 34.1000
34.2000 34.3000 34.4000 34.5000 34.6000 34.7000

Columns 349 through 360

34.8000 34.9000 35.0000 35.1000 35.2000 35.3000
35.4000 35.5000 35.6000 35.7000 35.8000 35.9000

Columns 361 through 372

36.0000 36.1000 36.2000 36.3000 36.4000 36.5000
36.6000 36.7000 36.8000 36.9000 37.0000 37.1000

Columns 373 through 384

37.2000 37.3000 37.4000 37.5000 37.6000 37.7000
37.8000 37.9000 38.0000 38.1000 38.2000 38.3000

Columns 385 through 396

38.4000 38.5000 38.6000 38.7000 38.8000 38.9000
39.0000 39.1000 39.2000 39.3000 39.4000 39.5000

Columns 397 through 408

39.6000 39.7000 39.8000 39.9000 40.0000 40.1000
40.2000 40.3000 40.4000 40.5000 40.6000 40.7000

Columns 409 through 420

40.8000 40.9000 41.0000 41.1000 41.2000 41.3000
41.4000 41.5000 41.6000 41.7000 41.8000 41.9000

Columns 421 through 432

42.0000 42.1000 42.2000 42.3000 42.4000 42.5000
42.6000 42.7000 42.8000 42.9000 43.0000 43.1000

Columns 433 through 444

43.2000 43.3000 43.4000 43.5000 43.6000 43.7000
43.8000 43.9000 44.0000 44.1000 44.2000 44.3000

Columns 445 through 456

44.4000 44.5000 44.6000 44.7000 44.8000 44.9000
45.0000 45.1000 45.2000 45.3000 45.4000 45.5000

Columns 457 through 468

45.6000 45.7000 45.8000 45.9000 46.0000 46.1000
46.2000 46.3000 46.4000 46.5000 46.6000 46.7000

Columns 469 through 480

46.8000 46.9000 47.0000 47.1000 47.2000 47.3000
47.4000 47.5000 47.6000 47.7000 47.8000 47.9000

Columns 481 through 492

48.0000 48.1000 48.2000 48.3000 48.4000 48.5000
48.6000 48.7000 48.8000 48.9000 49.0000 49.1000

Columns 493 through 501

49.2000 49.3000 49.4000 49.5000 49.6000 49.7000
49.8000 49.9000 50.0000

v(t) =

6*y(t) + 5*diff(y(t), t) + diff(y(t), t, t) == cos(t)

dy(t) =

diff(y(t), t)

vcond =

[y(0) == 5, subs(diff(y(t), t), t, 0) == 3]

z =

(88*exp(-2*t))/5 - (127*exp(-3*t))/10 + (2^(1/2)*cos(t -
pi/4))/10

j =

[5, (88*exp(-1/5))/5 - (127*exp(-3/10))/10 + (2^(1/2)*cos(pi/4
- 1/10))/10, (88*exp(-2/5))/5 - (127*exp(-3/5))/10 +
(2^(1/2)*cos(pi/4 - 1/5))/10, (88*exp(-3/5))/5 - (127*exp(-
9/10))/10 + (2^(1/2)*cos(pi/4 - 3/10))/10, (88*exp(-4/5))/5 -
(127*exp(-6/5))/10 + (2^(1/2)*cos(pi/4 - 2/5))/10, (88*exp(-
1))/5 - (127*exp(-3/2))/10 + (2^(1/2)*cos(pi/4 - 1/2))/10,
(88*exp(-6/5))/5 - (127*exp(-9/5))/10 + (2^(1/2)*cos(pi/4 -
3/5))/10, (88*exp(-7/5))/5 - (127*exp(-21/10))/10 +
(2^(1/2)*cos(pi/4 - 7/10))/10, (88*exp(-8/5))/5 - (127*exp(-
12/5))/10 + (2^(1/2)*cos(pi/4 - 4/5))/10, (88*exp(-9/5))/5 -
(127*exp(-27/10))/10 + (2^(1/2)*cos(pi/4 - 9/10))/10, (88*exp(-
2))/5 - (127*exp(-3))/10 + (2^(1/2)*cos(pi/4 - 1))/10, (88*exp(-
11/5))/5 - (127*exp(-33/10))/10 + (2^(1/2)*cos(pi/4 -
11/10))/10, (88*exp(-12/5))/5 - (127*exp(-18/5))/10 +
(2^(1/2)*cos(pi/4 - 6/5))/10, (88*exp(-13/5))/5 - (127*exp(-
39/10))/10 + (2^(1/2)*cos(pi/4 - 13/10))/10, (88*exp(-14/5))/5 -
(127*exp(-21/5))/10 + (2^(1/2)*cos(pi/4 - 7/5))/10, (88*exp(-
3))/5 - (127*exp(-9/2))/10 + (2^(1/2)*cos(pi/4 - 3/2))/10,

$(88 \cdot \exp(-16/5))/5 - (127 \cdot \exp(-24/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 8/5))/10,$
 $(88 \cdot \exp(-17/5))/5 - (127 \cdot \exp(-51/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 17/10))/10,$
 $(88 \cdot \exp(-18/5))/5 - (127 \cdot \exp(-27/5))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 9/5))/10,$
 $(88 \cdot \exp(-19/5))/5 -$
 $(127 \cdot \exp(-57/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 19/10))/10,$
 $(88 \cdot \exp(-4))/5 -$
 $(127 \cdot \exp(-6))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 2))/10,$
 $(88 \cdot \exp(-21/5))/5 -$
 $(127 \cdot \exp(-63/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 21/10))/10,$
 $(88 \cdot \exp(-22/5))/5 - (127 \cdot \exp(-33/5))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 11/5))/10,$
 $(88 \cdot \exp(-23/5))/5 - (127 \cdot \exp(-69/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 23/10))/10,$
 $(88 \cdot \exp(-24/5))/5 -$
 $(127 \cdot \exp(-36/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 12/5))/10,$
 $(88 \cdot \exp(-5))/5 -$
 $(127 \cdot \exp(-15/2))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 5/2))/10,$
 $(88 \cdot \exp(-26/5))/5 - (127 \cdot \exp(-39/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 13/5))/10,$
 $(88 \cdot \exp(-27/5))/5 - (127 \cdot \exp(-81/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 27/10))/10,$
 $(88 \cdot \exp(-28/5))/5 - (127 \cdot \exp(-42/5))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 14/5))/10,$
 $(88 \cdot \exp(-29/5))/5 -$
 $(127 \cdot \exp(-87/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 29/10))/10,$
 $(88 \cdot \exp(-6))/5 -$
 $(127 \cdot \exp(-9))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 3))/10,$
 $(88 \cdot \exp(-31/5))/5 -$
 $(127 \cdot \exp(-93/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 31/10))/10,$
 $(88 \cdot \exp(-32/5))/5 - (127 \cdot \exp(-48/5))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 16/5))/10,$
 $(88 \cdot \exp(-33/5))/5 - (127 \cdot \exp(-99/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 33/10))/10,$
 $(88 \cdot \exp(-34/5))/5 -$
 $(127 \cdot \exp(-51/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 17/5))/10,$
 $(88 \cdot \exp(-7))/5 -$
 $(127 \cdot \exp(-21/2))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 7/2))/10,$
 $(88 \cdot \exp(-36/5))/5 - (127 \cdot \exp(-54/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 18/5))/10,$
 $(88 \cdot \exp(-37/5))/5 - (127 \cdot \exp(-111/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 37/10))/10,$
 $(88 \cdot \exp(-38/5))/5 - (127 \cdot \exp(-57/5))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 19/5))/10,$
 $(88 \cdot \exp(-39/5))/5 -$
 $(127 \cdot \exp(-117/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 39/10))/10,$
 $(88 \cdot \exp(-8))/5 - (127 \cdot \exp(-12))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 4))/10,$
 $(88 \cdot \exp(-41/5))/5 - (127 \cdot \exp(-123/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 41/10))/10,$
 $(88 \cdot \exp(-42/5))/5 - (127 \cdot \exp(-63/5))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 21/5))/10,$
 $(88 \cdot \exp(-43/5))/5 - (127 \cdot \exp(-129/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 43/10))/10,$
 $(88 \cdot \exp(-44/5))/5 -$
 $(127 \cdot \exp(-66/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 22/5))/10,$
 $(88 \cdot \exp(-9))/5 -$
 $(127 \cdot \exp(-27/2))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 9/2))/10,$
 $(88 \cdot \exp(-46/5))/5 - (127 \cdot \exp(-69/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 23/5))/10,$
 $(88 \cdot \exp(-47/5))/5 - (127 \cdot \exp(-141/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 47/10))/10,$
 $(88 \cdot \exp(-48/5))/5 - (127 \cdot \exp(-72/5))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 24/5))/10,$
 $(88 \cdot \exp(-49/5))/5 -$
 $(127 \cdot \exp(-147/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 49/10))/10,$
 $(88 \cdot \exp(-10))/5 - (127 \cdot \exp(-15))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 5))/10,$
 $(88 \cdot \exp(-51/5))/5 - (127 \cdot \exp(-153/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 51/10))/10,$
 $(88 \cdot \exp(-52/5))/5 - (127 \cdot \exp(-78/5))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 26/5))/10,$
 $(88 \cdot \exp(-53/5))/5 -$
 $(127 \cdot \exp(-159/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 53/10))/10,$
 $(88 \cdot \exp(-54/5))/5 - (127 \cdot \exp(-81/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 -$

$27/5)/10, (88*\exp(-11))/5 - (127*\exp(-33/2))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 11/2))/10, (88*\exp(-56/5))/5 - (127*\exp(-$
 $84/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 28/5))/10, (88*\exp(-57/5))/5 -$
 $(127*\exp(-171/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 57/10))/10,$
 $(88*\exp(-58/5))/5 - (127*\exp(-87/5))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $29/5))/10, (88*\exp(-59/5))/5 - (127*\exp(-177/10))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 59/10))/10, (88*\exp(-12))/5 - (127*\exp(-$
 $18))/10 + (2^{(1/2)}*\cos(\pi/4 - 6))/10, (88*\exp(-61/5))/5 -$
 $(127*\exp(-183/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 61/10))/10,$
 $(88*\exp(-62/5))/5 - (127*\exp(-93/5))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $31/5))/10, (88*\exp(-63/5))/5 - (127*\exp(-189/10))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 63/10))/10, (88*\exp(-64/5))/5 - (127*\exp(-$
 $96/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 32/5))/10, (88*\exp(-13))/5 -$
 $(127*\exp(-39/2))/10 + (2^{(1/2)}*\cos(\pi/4 - 13/2))/10, (88*\exp(-$
 $66/5))/5 - (127*\exp(-99/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 33/5))/10,$
 $(88*\exp(-67/5))/5 - (127*\exp(-201/10))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $67/10))/10, (88*\exp(-68/5))/5 - (127*\exp(-102/5))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 34/5))/10, (88*\exp(-69/5))/5 - (127*\exp(-$
 $207/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 69/10))/10, (88*\exp(-14))/5 -$
 $(127*\exp(-21))/10 + (2^{(1/2)}*\cos(\pi/4 - 7))/10, (88*\exp(-$
 $71/5))/5 - (127*\exp(-213/10))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $71/10))/10, (88*\exp(-72/5))/5 - (127*\exp(-108/5))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 36/5))/10, (88*\exp(-73/5))/5 - (127*\exp(-$
 $219/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 73/10))/10, (88*\exp(-74/5))/5$
 $- (127*\exp(-111/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 37/5))/10,$
 $(88*\exp(-15))/5 - (127*\exp(-45/2))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $15/2))/10, (88*\exp(-76/5))/5 - (127*\exp(-114/5))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 38/5))/10, (88*\exp(-77/5))/5 - (127*\exp(-$
 $231/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 77/10))/10, (88*\exp(-78/5))/5$
 $- (127*\exp(-117/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 39/5))/10,$
 $(88*\exp(-79/5))/5 - (127*\exp(-237/10))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $79/10))/10, (88*\exp(-16))/5 - (127*\exp(-24))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 8))/10, (88*\exp(-81/5))/5 - (127*\exp(-$
 $243/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 81/10))/10, (88*\exp(-82/5))/5$
 $- (127*\exp(-123/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 41/5))/10,$
 $(88*\exp(-83/5))/5 - (127*\exp(-249/10))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $83/10))/10, (88*\exp(-84/5))/5 - (127*\exp(-126/5))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 42/5))/10, (88*\exp(-17))/5 - (127*\exp(-$
 $51/2))/10 + (2^{(1/2)}*\cos(\pi/4 - 17/2))/10, (88*\exp(-86/5))/5 -$
 $(127*\exp(-129/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 43/5))/10, (88*\exp(-$
 $87/5))/5 - (127*\exp(-261/10))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $87/10))/10, (88*\exp(-88/5))/5 - (127*\exp(-132/5))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 44/5))/10, (88*\exp(-89/5))/5 - (127*\exp(-$
 $267/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 89/10))/10, (88*\exp(-18))/5 -$
 $(127*\exp(-27))/10 + (2^{(1/2)}*\cos(\pi/4 - 9))/10, (88*\exp(-$
 $91/5))/5 - (127*\exp(-273/10))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $91/10))/10, (88*\exp(-92/5))/5 - (127*\exp(-138/5))/10 +$

$(2^{1/2} \cos(\pi/4 - 46/5))/10, (88 \exp(-93/5))/5 - (127 \exp(-279/10))/10 + (2^{1/2} \cos(\pi/4 - 93/10))/10, (88 \exp(-94/5))/5 - (127 \exp(-141/5))/10 + (2^{1/2} \cos(\pi/4 - 47/5))/10, (88 \exp(-19))/5 - (127 \exp(-57/2))/10 + (2^{1/2} \cos(\pi/4 - 19/2))/10, (88 \exp(-96/5))/5 - (127 \exp(-144/5))/10 + (2^{1/2} \cos(\pi/4 - 48/5))/10, (88 \exp(-97/5))/5 - (127 \exp(-291/10))/10 + (2^{1/2} \cos(\pi/4 - 97/10))/10, (88 \exp(-98/5))/5 - (127 \exp(-147/5))/10 + (2^{1/2} \cos(\pi/4 - 49/5))/10, (88 \exp(-99/5))/5 - (127 \exp(-297/10))/10 + (2^{1/2} \cos(\pi/4 - 99/10))/10, (88 \exp(-20))/5 - (127 \exp(-30))/10 + (2^{1/2} \cos(\pi/4 - 10))/10, (88 \exp(-101/5))/5 - (127 \exp(-303/10))/10 + (2^{1/2} \cos(\pi/4 - 101/10))/10, (88 \exp(-102/5))/5 - (127 \exp(-153/5))/10 + (2^{1/2} \cos(\pi/4 - 51/5))/10, (88 \exp(-103/5))/5 - (127 \exp(-309/10))/10 + (2^{1/2} \cos(\pi/4 - 103/10))/10, (88 \exp(-104/5))/5 - (127 \exp(-156/5))/10 + (2^{1/2} \cos(\pi/4 - 52/5))/10, (88 \exp(-21))/5 - (127 \exp(-63/2))/10 + (2^{1/2} \cos(\pi/4 - 21/2))/10, (88 \exp(-106/5))/5 - (127 \exp(-159/5))/10 + (2^{1/2} \cos(\pi/4 - 53/5))/10, (88 \exp(-107/5))/5 - (127 \exp(-321/10))/10 + (2^{1/2} \cos(\pi/4 - 107/10))/10, (88 \exp(-108/5))/5 - (127 \exp(-162/5))/10 + (2^{1/2} \cos(\pi/4 - 54/5))/10, (88 \exp(-109/5))/5 - (127 \exp(-327/10))/10 + (2^{1/2} \cos(\pi/4 - 109/10))/10, (88 \exp(-22))/5 - (127 \exp(-33))/10 + (2^{1/2} \cos(\pi/4 - 11))/10, (88 \exp(-111/5))/5 - (127 \exp(-333/10))/10 + (2^{1/2} \cos(\pi/4 - 111/10))/10, (88 \exp(-112/5))/5 - (127 \exp(-168/5))/10 + (2^{1/2} \cos(\pi/4 - 56/5))/10, (88 \exp(-113/5))/5 - (127 \exp(-339/10))/10 + (2^{1/2} \cos(\pi/4 - 113/10))/10, (88 \exp(-114/5))/5 - (127 \exp(-171/5))/10 + (2^{1/2} \cos(\pi/4 - 57/5))/10, (88 \exp(-23))/5 - (127 \exp(-69/2))/10 + (2^{1/2} \cos(\pi/4 - 23/2))/10, (88 \exp(-116/5))/5 - (127 \exp(-174/5))/10 + (2^{1/2} \cos(\pi/4 - 58/5))/10, (88 \exp(-117/5))/5 - (127 \exp(-351/10))/10 + (2^{1/2} \cos(\pi/4 - 117/10))/10, (88 \exp(-118/5))/5 - (127 \exp(-177/5))/10 + (2^{1/2} \cos(\pi/4 - 59/5))/10, (88 \exp(-119/5))/5 - (127 \exp(-357/10))/10 + (2^{1/2} \cos(\pi/4 - 119/10))/10, (88 \exp(-24))/5 - (127 \exp(-36))/10 + (2^{1/2} \cos(\pi/4 - 12))/10, (88 \exp(-121/5))/5 - (127 \exp(-363/10))/10 + (2^{1/2} \cos(\pi/4 - 121/10))/10, (88 \exp(-122/5))/5 - (127 \exp(-183/5))/10 + (2^{1/2} \cos(\pi/4 - 61/5))/10, (88 \exp(-123/5))/5 - (127 \exp(-369/10))/10 + (2^{1/2} \cos(\pi/4 - 123/10))/10, (88 \exp(-124/5))/5 - (127 \exp(-186/5))/10 + (2^{1/2} \cos(\pi/4 - 62/5))/10, (88 \exp(-25))/5 - (127 \exp(-75/2))/10 + (2^{1/2} \cos(\pi/4 - 25/2))/10, (88 \exp(-126/5))/5 - (127 \exp(-189/5))/10 + (2^{1/2} \cos(\pi/4 - 63/5))/10, (88 \exp(-127/5))/5 - (127 \exp(-381/10))/10 + (2^{1/2} \cos(\pi/4 - 127/10))/10, (88 \exp(-128/5))/5 - (127 \exp(-192/5))/10 + (2^{1/2} \cos(\pi/4 - 64/5))/10, (88 \exp(-129/5))/5 - (127 \exp(-387/10))/10 + (2^{1/2} \cos(\pi/4 - 129/10))/10,$

$(88 \cdot \exp(-26))/5 - (127 \cdot \exp(-39))/10 + (2^{1/2} \cdot \cos(\pi/4 - 13))/10,$
 $(88 \cdot \exp(-131/5))/5 - (127 \cdot \exp(-393/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 131/10))/10,$
 $(88 \cdot \exp(-132/5))/5 - (127 \cdot \exp(-198/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 66/5))/10,$
 $(88 \cdot \exp(-133/5))/5 - (127 \cdot \exp(-399/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 133/10))/10,$
 $(88 \cdot \exp(-134/5))/5 - (127 \cdot \exp(-201/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 67/5))/10,$
 $(88 \cdot \exp(-27))/5 - (127 \cdot \exp(-81/2))/10 + (2^{1/2} \cdot \cos(\pi/4 - 27/2))/10,$
 $(88 \cdot \exp(-136/5))/5 - (127 \cdot \exp(-204/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 68/5))/10,$
 $(88 \cdot \exp(-137/5))/5 - (127 \cdot \exp(-411/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 137/10))/10,$
 $(88 \cdot \exp(-138/5))/5 - (127 \cdot \exp(-207/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 69/5))/10,$
 $(88 \cdot \exp(-139/5))/5 - (127 \cdot \exp(-417/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 139/10))/10,$
 $(88 \cdot \exp(-28))/5 - (127 \cdot \exp(-42))/10 + (2^{1/2} \cdot \cos(\pi/4 - 14))/10,$
 $(88 \cdot \exp(-141/5))/5 - (127 \cdot \exp(-423/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 141/10))/10,$
 $(88 \cdot \exp(-142/5))/5 - (127 \cdot \exp(-213/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 71/5))/10,$
 $(88 \cdot \exp(-143/5))/5 - (127 \cdot \exp(-429/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 143/10))/10,$
 $(88 \cdot \exp(-144/5))/5 - (127 \cdot \exp(-216/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 72/5))/10,$
 $(88 \cdot \exp(-29))/5 - (127 \cdot \exp(-87/2))/10 + (2^{1/2} \cdot \cos(\pi/4 - 29/2))/10,$
 $(88 \cdot \exp(-146/5))/5 - (127 \cdot \exp(-219/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 73/5))/10,$
 $(88 \cdot \exp(-147/5))/5 - (127 \cdot \exp(-441/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 147/10))/10,$
 $(88 \cdot \exp(-148/5))/5 - (127 \cdot \exp(-222/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 74/5))/10,$
 $(88 \cdot \exp(-149/5))/5 - (127 \cdot \exp(-447/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 149/10))/10,$
 $(88 \cdot \exp(-30))/5 - (127 \cdot \exp(-45))/10 + (2^{1/2} \cdot \cos(\pi/4 - 15))/10,$
 $(88 \cdot \exp(-151/5))/5 - (127 \cdot \exp(-453/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 151/10))/10,$
 $(88 \cdot \exp(-152/5))/5 - (127 \cdot \exp(-228/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 76/5))/10,$
 $(88 \cdot \exp(-153/5))/5 - (127 \cdot \exp(-459/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 153/10))/10,$
 $(88 \cdot \exp(-154/5))/5 - (127 \cdot \exp(-231/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 77/5))/10,$
 $(88 \cdot \exp(-31))/5 - (127 \cdot \exp(-93/2))/10 + (2^{1/2} \cdot \cos(\pi/4 - 31/2))/10,$
 $(88 \cdot \exp(-156/5))/5 - (127 \cdot \exp(-234/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 78/5))/10,$
 $(88 \cdot \exp(-157/5))/5 - (127 \cdot \exp(-471/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 157/10))/10,$
 $(88 \cdot \exp(-158/5))/5 - (127 \cdot \exp(-237/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 79/5))/10,$
 $(88 \cdot \exp(-159/5))/5 - (127 \cdot \exp(-477/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 159/10))/10,$
 $(88 \cdot \exp(-32))/5 - (127 \cdot \exp(-48))/10 + (2^{1/2} \cdot \cos(\pi/4 - 16))/10,$
 $(88 \cdot \exp(-161/5))/5 - (127 \cdot \exp(-483/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 161/10))/10,$
 $(88 \cdot \exp(-162/5))/5 - (127 \cdot \exp(-243/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 81/5))/10,$
 $(88 \cdot \exp(-163/5))/5 - (127 \cdot \exp(-489/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 163/10))/10,$
 $(88 \cdot \exp(-164/5))/5 - (127 \cdot \exp(-246/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 82/5))/10,$
 $(88 \cdot \exp(-33))/5 - (127 \cdot \exp(-99/2))/10 + (2^{1/2} \cdot \cos(\pi/4 - 33/2))/10,$
 $(88 \cdot \exp(-166/5))/5 - (127 \cdot \exp(-249/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 83/5))/10,$
 $(88 \cdot \exp(-167/5))/5 - (127 \cdot \exp(-501/10))/10 +$

$(2^{(1/2)} \cos(\pi/4 - 167/10))/10, (88 \exp(-168/5))/5 - (127 \exp(-252/5))/10 + (2^{(1/2)} \cos(\pi/4 - 84/5))/10, (88 \exp(-169/5))/5 - (127 \exp(-507/10))/10 + (2^{(1/2)} \cos(\pi/4 - 169/10))/10,$
 $(88 \exp(-34))/5 - (127 \exp(-51))/10 + (2^{(1/2)} \cos(\pi/4 - 17))/10, (88 \exp(-171/5))/5 - (127 \exp(-513/10))/10 + (2^{(1/2)} \cos(\pi/4 - 171/10))/10, (88 \exp(-172/5))/5 - (127 \exp(-258/5))/10 + (2^{(1/2)} \cos(\pi/4 - 86/5))/10, (88 \exp(-173/5))/5 - (127 \exp(-519/10))/10 + (2^{(1/2)} \cos(\pi/4 - 173/10))/10,$
 $(88 \exp(-174/5))/5 - (127 \exp(-261/5))/10 + (2^{(1/2)} \cos(\pi/4 - 87/5))/10, (88 \exp(-35))/5 - (127 \exp(-105/2))/10 + (2^{(1/2)} \cos(\pi/4 - 35/2))/10, (88 \exp(-176/5))/5 - (127 \exp(-264/5))/10 + (2^{(1/2)} \cos(\pi/4 - 88/5))/10, (88 \exp(-177/5))/5 - (127 \exp(-531/10))/10 + (2^{(1/2)} \cos(\pi/4 - 177/10))/10,$
 $(88 \exp(-178/5))/5 - (127 \exp(-267/5))/10 + (2^{(1/2)} \cos(\pi/4 - 89/5))/10, (88 \exp(-179/5))/5 - (127 \exp(-537/10))/10 + (2^{(1/2)} \cos(\pi/4 - 179/10))/10, (88 \exp(-36))/5 - (127 \exp(-54))/10 + (2^{(1/2)} \cos(\pi/4 - 18))/10, (88 \exp(-181/5))/5 - (127 \exp(-543/10))/10 + (2^{(1/2)} \cos(\pi/4 - 181/10))/10,$
 $(88 \exp(-182/5))/5 - (127 \exp(-273/5))/10 + (2^{(1/2)} \cos(\pi/4 - 91/5))/10, (88 \exp(-183/5))/5 - (127 \exp(-549/10))/10 + (2^{(1/2)} \cos(\pi/4 - 183/10))/10, (88 \exp(-184/5))/5 - (127 \exp(-276/5))/10 + (2^{(1/2)} \cos(\pi/4 - 92/5))/10, (88 \exp(-37))/5 - (127 \exp(-111/2))/10 + (2^{(1/2)} \cos(\pi/4 - 37/2))/10, (88 \exp(-186/5))/5 - (127 \exp(-279/5))/10 + (2^{(1/2)} \cos(\pi/4 - 93/5))/10, (88 \exp(-187/5))/5 - (127 \exp(-561/10))/10 + (2^{(1/2)} \cos(\pi/4 - 187/10))/10, (88 \exp(-188/5))/5 - (127 \exp(-282/5))/10 + (2^{(1/2)} \cos(\pi/4 - 94/5))/10, (88 \exp(-189/5))/5 - (127 \exp(-567/10))/10 + (2^{(1/2)} \cos(\pi/4 - 189/10))/10,$
 $(88 \exp(-38))/5 - (127 \exp(-57))/10 + (2^{(1/2)} \cos(\pi/4 - 19))/10, (88 \exp(-191/5))/5 - (127 \exp(-573/10))/10 + (2^{(1/2)} \cos(\pi/4 - 191/10))/10, (88 \exp(-192/5))/5 - (127 \exp(-288/5))/10 + (2^{(1/2)} \cos(\pi/4 - 96/5))/10, (88 \exp(-193/5))/5 - (127 \exp(-579/10))/10 + (2^{(1/2)} \cos(\pi/4 - 193/10))/10,$
 $(88 \exp(-194/5))/5 - (127 \exp(-291/5))/10 + (2^{(1/2)} \cos(\pi/4 - 97/5))/10, (88 \exp(-39))/5 - (127 \exp(-117/2))/10 + (2^{(1/2)} \cos(\pi/4 - 39/2))/10, (88 \exp(-196/5))/5 - (127 \exp(-294/5))/10 + (2^{(1/2)} \cos(\pi/4 - 98/5))/10, (88 \exp(-197/5))/5 - (127 \exp(-591/10))/10 + (2^{(1/2)} \cos(\pi/4 - 197/10))/10,$
 $(88 \exp(-198/5))/5 - (127 \exp(-297/5))/10 + (2^{(1/2)} \cos(\pi/4 - 99/5))/10, (88 \exp(-199/5))/5 - (127 \exp(-597/10))/10 + (2^{(1/2)} \cos(\pi/4 - 199/10))/10, (88 \exp(-40))/5 - (127 \exp(-60))/10 + (2^{(1/2)} \cos(\pi/4 - 20))/10, (88 \exp(-201/5))/5 - (127 \exp(-603/10))/10 + (2^{(1/2)} \cos(\pi/4 - 201/10))/10,$
 $(88 \exp(-202/5))/5 - (127 \exp(-303/5))/10 + (2^{(1/2)} \cos(\pi/4 - 101/5))/10, (88 \exp(-203/5))/5 - (127 \exp(-609/10))/10 + (2^{(1/2)} \cos(\pi/4 - 203/10))/10, (88 \exp(-204/5))/5 - (127 \exp(-306/5))/10 + (2^{(1/2)} \cos(\pi/4 - 102/5))/10, (88 \exp(-41))/5 -$

$(127 \cdot \exp(-123/2))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 41/2))/10, (88 \cdot \exp(-206/5))/5 - (127 \cdot \exp(-309/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 103/5))/10, (88 \cdot \exp(-207/5))/5 - (127 \cdot \exp(-621/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 207/10))/10, (88 \cdot \exp(-208/5))/5 - (127 \cdot \exp(-312/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 104/5))/10, (88 \cdot \exp(-209/5))/5 - (127 \cdot \exp(-627/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 209/10))/10, (88 \cdot \exp(-42))/5 - (127 \cdot \exp(-63))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 21))/10, (88 \cdot \exp(-211/5))/5 - (127 \cdot \exp(-633/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 211/10))/10, (88 \cdot \exp(-212/5))/5 - (127 \cdot \exp(-318/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 106/5))/10, (88 \cdot \exp(-213/5))/5 - (127 \cdot \exp(-639/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 213/10))/10, (88 \cdot \exp(-214/5))/5 - (127 \cdot \exp(-321/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 107/5))/10, (88 \cdot \exp(-43))/5 - (127 \cdot \exp(-129/2))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 43/2))/10, (88 \cdot \exp(-216/5))/5 - (127 \cdot \exp(-324/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 108/5))/10, (88 \cdot \exp(-217/5))/5 - (127 \cdot \exp(-651/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 217/10))/10, (88 \cdot \exp(-218/5))/5 - (127 \cdot \exp(-327/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 109/5))/10, (88 \cdot \exp(-219/5))/5 - (127 \cdot \exp(-657/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 219/10))/10, (88 \cdot \exp(-44))/5 - (127 \cdot \exp(-66))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 22))/10, (88 \cdot \exp(-221/5))/5 - (127 \cdot \exp(-663/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 221/10))/10, (88 \cdot \exp(-222/5))/5 - (127 \cdot \exp(-333/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 111/5))/10, (88 \cdot \exp(-223/5))/5 - (127 \cdot \exp(-669/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 223/10))/10, (88 \cdot \exp(-224/5))/5 - (127 \cdot \exp(-336/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 112/5))/10, (88 \cdot \exp(-45))/5 - (127 \cdot \exp(-135/2))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 45/2))/10, (88 \cdot \exp(-226/5))/5 - (127 \cdot \exp(-339/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 113/5))/10, (88 \cdot \exp(-227/5))/5 - (127 \cdot \exp(-681/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 227/10))/10, (88 \cdot \exp(-228/5))/5 - (127 \cdot \exp(-342/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 114/5))/10, (88 \cdot \exp(-229/5))/5 - (127 \cdot \exp(-687/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 229/10))/10, (88 \cdot \exp(-46))/5 - (127 \cdot \exp(-69))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 23))/10, (88 \cdot \exp(-231/5))/5 - (127 \cdot \exp(-693/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 231/10))/10, (88 \cdot \exp(-232/5))/5 - (127 \cdot \exp(-348/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 116/5))/10, (88 \cdot \exp(-233/5))/5 - (127 \cdot \exp(-699/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 233/10))/10, (88 \cdot \exp(-234/5))/5 - (127 \cdot \exp(-351/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 117/5))/10, (88 \cdot \exp(-47))/5 - (127 \cdot \exp(-141/2))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 47/2))/10, (88 \cdot \exp(-236/5))/5 - (127 \cdot \exp(-354/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 118/5))/10, (88 \cdot \exp(-237/5))/5 - (127 \cdot \exp(-711/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 237/10))/10, (88 \cdot \exp(-238/5))/5 - (127 \cdot \exp(-357/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 119/5))/10, (88 \cdot \exp(-239/5))/5 - (127 \cdot \exp(-717/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 239/10))/10, (88 \cdot \exp(-48))/5 - (127 \cdot \exp(-72))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 24))/10, (88 \cdot \exp(-241/5))/5 - (127 \cdot \exp(-723/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 241/10))/10, (88 \cdot \exp(-242/5))/5 - (127 \cdot \exp(-363/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 -$

$(121/5))/10, (88*\exp(-243/5))/5 - (127*\exp(-729/10))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 243/10))/10, (88*\exp(-244/5))/5 - (127*\exp(-$
 $366/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 122/5))/10, (88*\exp(-49))/5 -$
 $(127*\exp(-147/2))/10 + (2^{(1/2)}*\cos(\pi/4 - 49/2))/10, (88*\exp(-$
 $246/5))/5 - (127*\exp(-369/5))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $123/5))/10, (88*\exp(-247/5))/5 - (127*\exp(-741/10))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 247/10))/10, (88*\exp(-248/5))/5 - (127*\exp(-$
 $372/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 124/5))/10, (88*\exp(-249/5))/5$
 $- (127*\exp(-747/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 249/10))/10,$
 $(88*\exp(-50))/5 - (127*\exp(-75))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $25))/10, (88*\exp(-251/5))/5 - (127*\exp(-753/10))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 251/10))/10, (88*\exp(-252/5))/5 - (127*\exp(-$
 $378/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 126/5))/10, (88*\exp(-253/5))/5$
 $- (127*\exp(-759/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 253/10))/10,$
 $(88*\exp(-254/5))/5 - (127*\exp(-381/5))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $127/5))/10, (88*\exp(-51))/5 - (127*\exp(-153/2))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 51/2))/10, (88*\exp(-256/5))/5 - (127*\exp(-$
 $384/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 128/5))/10, (88*\exp(-257/5))/5$
 $- (127*\exp(-771/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 257/10))/10,$
 $(88*\exp(-258/5))/5 - (127*\exp(-387/5))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $129/5))/10, (88*\exp(-259/5))/5 - (127*\exp(-777/10))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 259/10))/10, (88*\exp(-52))/5 - (127*\exp(-$
 $78))/10 + (2^{(1/2)}*\cos(\pi/4 - 26))/10, (88*\exp(-261/5))/5 -$
 $(127*\exp(-783/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 261/10))/10,$
 $(88*\exp(-262/5))/5 - (127*\exp(-393/5))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $131/5))/10, (88*\exp(-263/5))/5 - (127*\exp(-789/10))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 263/10))/10, (88*\exp(-264/5))/5 - (127*\exp(-$
 $396/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 132/5))/10, (88*\exp(-53))/5 -$
 $(127*\exp(-159/2))/10 + (2^{(1/2)}*\cos(\pi/4 - 53/2))/10, (88*\exp(-$
 $266/5))/5 - (127*\exp(-399/5))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $133/5))/10, (88*\exp(-267/5))/5 - (127*\exp(-801/10))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 267/10))/10, (88*\exp(-268/5))/5 - (127*\exp(-$
 $402/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 134/5))/10, (88*\exp(-269/5))/5$
 $- (127*\exp(-807/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 269/10))/10,$
 $(88*\exp(-54))/5 - (127*\exp(-81))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $27))/10, (88*\exp(-271/5))/5 - (127*\exp(-813/10))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 271/10))/10, (88*\exp(-272/5))/5 - (127*\exp(-$
 $408/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 136/5))/10, (88*\exp(-273/5))/5$
 $- (127*\exp(-819/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 273/10))/10,$
 $(88*\exp(-274/5))/5 - (127*\exp(-411/5))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $137/5))/10, (88*\exp(-55))/5 - (127*\exp(-165/2))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 55/2))/10, (88*\exp(-276/5))/5 - (127*\exp(-$
 $414/5))/10 + (2^{(1/2)}*\cos(\pi/4 - 138/5))/10, (88*\exp(-277/5))/5$
 $- (127*\exp(-831/10))/10 + (2^{(1/2)}*\cos(\pi/4 - 277/10))/10,$
 $(88*\exp(-278/5))/5 - (127*\exp(-417/5))/10 + (2^{(1/2)}*\cos(\pi/4 -$
 $139/5))/10, (88*\exp(-279/5))/5 - (127*\exp(-837/10))/10 +$
 $(2^{(1/2)}*\cos(\pi/4 - 279/10))/10, (88*\exp(-56))/5 - (127*\exp(-$

$84)/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 28))/10, (88 \cdot \exp(-281/5))/5 -$
 $(127 \cdot \exp(-843/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 281/10))/10,$
 $(88 \cdot \exp(-282/5))/5 - (127 \cdot \exp(-423/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 -$
 $141/5))/10, (88 \cdot \exp(-283/5))/5 - (127 \cdot \exp(-849/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 283/10))/10, (88 \cdot \exp(-284/5))/5 - (127 \cdot \exp(-$
 $426/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 142/5))/10, (88 \cdot \exp(-57))/5 -$
 $(127 \cdot \exp(-171/2))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 57/2))/10, (88 \cdot \exp(-$
 $286/5))/5 - (127 \cdot \exp(-429/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 -$
 $143/5))/10, (88 \cdot \exp(-287/5))/5 - (127 \cdot \exp(-861/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 287/10))/10, (88 \cdot \exp(-288/5))/5 - (127 \cdot \exp(-$
 $432/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 144/5))/10, (88 \cdot \exp(-289/5))/5$
 $- (127 \cdot \exp(-867/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 289/10))/10,$
 $(88 \cdot \exp(-58))/5 - (127 \cdot \exp(-87))/10 + (2^{(1/2)} \cdot \cos(\pi/4 -$
 $29))/10, (88 \cdot \exp(-291/5))/5 - (127 \cdot \exp(-873/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 291/10))/10, (88 \cdot \exp(-292/5))/5 - (127 \cdot \exp(-$
 $438/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 146/5))/10, (88 \cdot \exp(-293/5))/5$
 $- (127 \cdot \exp(-879/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 293/10))/10,$
 $(88 \cdot \exp(-294/5))/5 - (127 \cdot \exp(-441/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 -$
 $147/5))/10, (88 \cdot \exp(-59))/5 - (127 \cdot \exp(-177/2))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 59/2))/10, (88 \cdot \exp(-296/5))/5 - (127 \cdot \exp(-$
 $444/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 148/5))/10, (88 \cdot \exp(-297/5))/5$
 $- (127 \cdot \exp(-891/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 297/10))/10,$
 $(88 \cdot \exp(-298/5))/5 - (127 \cdot \exp(-447/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 -$
 $149/5))/10, (88 \cdot \exp(-299/5))/5 - (127 \cdot \exp(-897/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 299/10))/10, (88 \cdot \exp(-60))/5 - (127 \cdot \exp(-$
 $90))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 30))/10, (88 \cdot \exp(-301/5))/5 -$
 $(127 \cdot \exp(-903/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 301/10))/10,$
 $(88 \cdot \exp(-302/5))/5 - (127 \cdot \exp(-453/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 -$
 $151/5))/10, (88 \cdot \exp(-303/5))/5 - (127 \cdot \exp(-909/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 303/10))/10, (88 \cdot \exp(-304/5))/5 - (127 \cdot \exp(-$
 $456/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 152/5))/10, (88 \cdot \exp(-61))/5 -$
 $(127 \cdot \exp(-183/2))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 61/2))/10, (88 \cdot \exp(-$
 $306/5))/5 - (127 \cdot \exp(-459/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 -$
 $153/5))/10, (88 \cdot \exp(-307/5))/5 - (127 \cdot \exp(-921/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 307/10))/10, (88 \cdot \exp(-308/5))/5 - (127 \cdot \exp(-$
 $462/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 154/5))/10, (88 \cdot \exp(-309/5))/5$
 $- (127 \cdot \exp(-927/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 309/10))/10,$
 $(88 \cdot \exp(-62))/5 - (127 \cdot \exp(-93))/10 + (2^{(1/2)} \cdot \cos(\pi/4 -$
 $31))/10, (88 \cdot \exp(-311/5))/5 - (127 \cdot \exp(-933/10))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 311/10))/10, (88 \cdot \exp(-312/5))/5 - (127 \cdot \exp(-$
 $468/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 156/5))/10, (88 \cdot \exp(-313/5))/5$
 $- (127 \cdot \exp(-939/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 313/10))/10,$
 $(88 \cdot \exp(-314/5))/5 - (127 \cdot \exp(-471/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 -$
 $157/5))/10, (88 \cdot \exp(-63))/5 - (127 \cdot \exp(-189/2))/10 +$
 $(2^{(1/2)} \cdot \cos(\pi/4 - 63/2))/10, (88 \cdot \exp(-316/5))/5 - (127 \cdot \exp(-$
 $474/5))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 158/5))/10, (88 \cdot \exp(-317/5))/5$
 $- (127 \cdot \exp(-951/10))/10 + (2^{(1/2)} \cdot \cos(\pi/4 - 317/10))/10,$

$(88 \cdot \exp(-318/5))/5 - (127 \cdot \exp(-477/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 159/5))/10, (88 \cdot \exp(-319/5))/5 - (127 \cdot \exp(-957/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 319/10))/10, (88 \cdot \exp(-64))/5 - (127 \cdot \exp(-96))/10 + (2^{1/2} \cdot \cos(\pi/4 - 32))/10, (88 \cdot \exp(-321/5))/5 - (127 \cdot \exp(-963/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 321/10))/10, (88 \cdot \exp(-322/5))/5 - (127 \cdot \exp(-483/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 161/5))/10, (88 \cdot \exp(-323/5))/5 - (127 \cdot \exp(-969/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 323/10))/10, (88 \cdot \exp(-324/5))/5 - (127 \cdot \exp(-486/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 162/5))/10, (88 \cdot \exp(-65))/5 - (127 \cdot \exp(-195/2))/10 + (2^{1/2} \cdot \cos(\pi/4 - 65/2))/10, (88 \cdot \exp(-326/5))/5 - (127 \cdot \exp(-489/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 163/5))/10, (88 \cdot \exp(-327/5))/5 - (127 \cdot \exp(-981/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 327/10))/10, (88 \cdot \exp(-328/5))/5 - (127 \cdot \exp(-492/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 164/5))/10, (88 \cdot \exp(-329/5))/5 - (127 \cdot \exp(-987/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 329/10))/10, (88 \cdot \exp(-66))/5 - (127 \cdot \exp(-99))/10 + (2^{1/2} \cdot \cos(\pi/4 - 33))/10, (88 \cdot \exp(-331/5))/5 - (127 \cdot \exp(-993/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 331/10))/10, (88 \cdot \exp(-332/5))/5 - (127 \cdot \exp(-498/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 166/5))/10, (88 \cdot \exp(-333/5))/5 - (127 \cdot \exp(-999/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 333/10))/10, (88 \cdot \exp(-334/5))/5 - (127 \cdot \exp(-501/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 167/5))/10, (88 \cdot \exp(-67))/5 - (127 \cdot \exp(-201/2))/10 + (2^{1/2} \cdot \cos(\pi/4 - 67/2))/10, (88 \cdot \exp(-336/5))/5 - (127 \cdot \exp(-504/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 168/5))/10, (88 \cdot \exp(-337/5))/5 - (127 \cdot \exp(-1011/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 337/10))/10, (88 \cdot \exp(-338/5))/5 - (127 \cdot \exp(-507/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 169/5))/10, (88 \cdot \exp(-339/5))/5 - (127 \cdot \exp(-1017/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 339/10))/10, (88 \cdot \exp(-68))/5 - (127 \cdot \exp(-102))/10 + (2^{1/2} \cdot \cos(\pi/4 - 34))/10, (88 \cdot \exp(-341/5))/5 - (127 \cdot \exp(-1023/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 341/10))/10, (88 \cdot \exp(-342/5))/5 - (127 \cdot \exp(-513/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 171/5))/10, (88 \cdot \exp(-343/5))/5 - (127 \cdot \exp(-1029/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 343/10))/10, (88 \cdot \exp(-344/5))/5 - (127 \cdot \exp(-516/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 172/5))/10, (88 \cdot \exp(-69))/5 - (127 \cdot \exp(-207/2))/10 + (2^{1/2} \cdot \cos(\pi/4 - 69/2))/10, (88 \cdot \exp(-346/5))/5 - (127 \cdot \exp(-519/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 173/5))/10, (88 \cdot \exp(-347/5))/5 - (127 \cdot \exp(-1041/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 347/10))/10, (88 \cdot \exp(-348/5))/5 - (127 \cdot \exp(-522/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 174/5))/10, (88 \cdot \exp(-349/5))/5 - (127 \cdot \exp(-1047/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 349/10))/10, (88 \cdot \exp(-70))/5 - (127 \cdot \exp(-105))/10 + (2^{1/2} \cdot \cos(\pi/4 - 35))/10, (88 \cdot \exp(-351/5))/5 - (127 \cdot \exp(-1053/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 351/10))/10, (88 \cdot \exp(-352/5))/5 - (127 \cdot \exp(-528/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 176/5))/10, (88 \cdot \exp(-353/5))/5 - (127 \cdot \exp(-1059/10))/10 + (2^{1/2} \cdot \cos(\pi/4 - 353/10))/10, (88 \cdot \exp(-354/5))/5 - (127 \cdot \exp(-531/5))/10 + (2^{1/2} \cdot \cos(\pi/4 - 177/5))/10, (88 \cdot \exp(-71))/5 - (127 \cdot \exp(-213/2))/10 +$

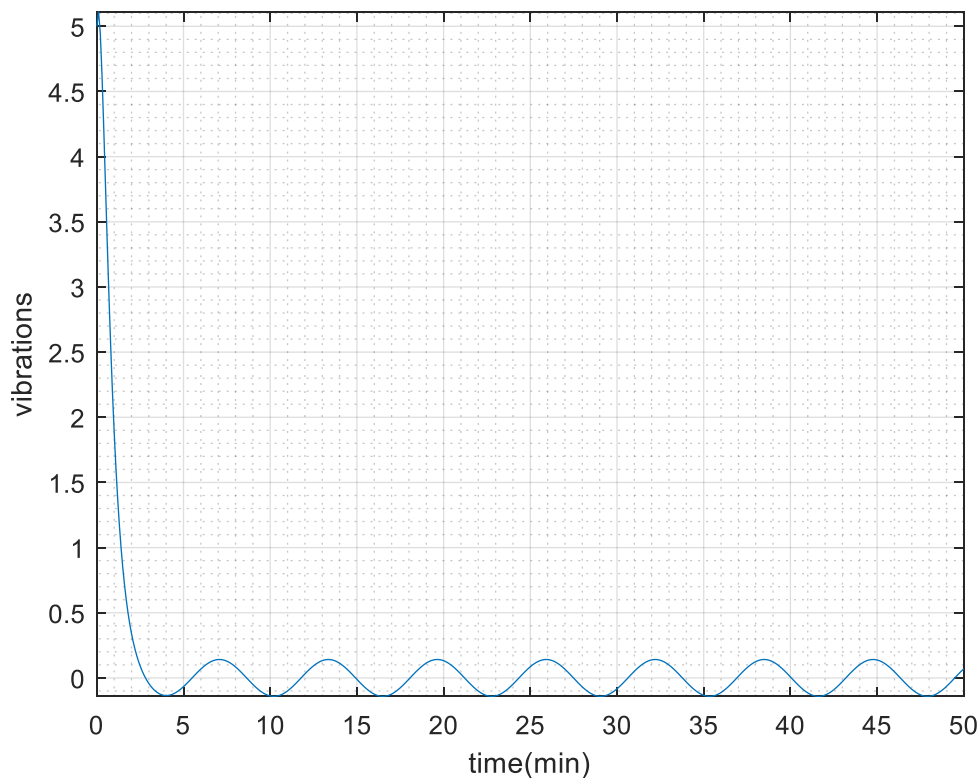
$(2^{(1/2)} \cos(\pi/4 - 71/2))/10, (88 \exp(-356/5))/5 - (127 \exp(-534/5))/10 + (2^{(1/2)} \cos(\pi/4 - 178/5))/10, (88 \exp(-357/5))/5 - (127 \exp(-1071/10))/10 + (2^{(1/2)} \cos(\pi/4 - 357/10))/10, (88 \exp(-358/5))/5 - (127 \exp(-537/5))/10 + (2^{(1/2)} \cos(\pi/4 - 179/5))/10, (88 \exp(-359/5))/5 - (127 \exp(-1077/10))/10 + (2^{(1/2)} \cos(\pi/4 - 359/10))/10, (88 \exp(-72))/5 - (127 \exp(-108))/10 + (2^{(1/2)} \cos(\pi/4 - 36))/10, (88 \exp(-361/5))/5 - (127 \exp(-1083/10))/10 + (2^{(1/2)} \cos(\pi/4 - 361/10))/10, (88 \exp(-362/5))/5 - (127 \exp(-543/5))/10 + (2^{(1/2)} \cos(\pi/4 - 181/5))/10, (88 \exp(-363/5))/5 - (127 \exp(-1089/10))/10 + (2^{(1/2)} \cos(\pi/4 - 363/10))/10, (88 \exp(-364/5))/5 - (127 \exp(-546/5))/10 + (2^{(1/2)} \cos(\pi/4 - 182/5))/10, (88 \exp(-73))/5 - (127 \exp(-219/2))/10 + (2^{(1/2)} \cos(\pi/4 - 73/2))/10, (88 \exp(-366/5))/5 - (127 \exp(-549/5))/10 + (2^{(1/2)} \cos(\pi/4 - 183/5))/10, (88 \exp(-367/5))/5 - (127 \exp(-1101/10))/10 + (2^{(1/2)} \cos(\pi/4 - 367/10))/10, (88 \exp(-368/5))/5 - (127 \exp(-552/5))/10 + (2^{(1/2)} \cos(\pi/4 - 184/5))/10, (88 \exp(-369/5))/5 - (127 \exp(-1107/10))/10 + (2^{(1/2)} \cos(\pi/4 - 369/10))/10, (88 \exp(-74))/5 - (127 \exp(-111))/10 + (2^{(1/2)} \cos(\pi/4 - 37))/10, (88 \exp(-371/5))/5 - (127 \exp(-1113/10))/10 + (2^{(1/2)} \cos(\pi/4 - 371/10))/10, (88 \exp(-372/5))/5 - (127 \exp(-558/5))/10 + (2^{(1/2)} \cos(\pi/4 - 186/5))/10, (88 \exp(-373/5))/5 - (127 \exp(-1119/10))/10 + (2^{(1/2)} \cos(\pi/4 - 373/10))/10, (88 \exp(-374/5))/5 - (127 \exp(-561/5))/10 + (2^{(1/2)} \cos(\pi/4 - 187/5))/10, (88 \exp(-75))/5 - (127 \exp(-225/2))/10 + (2^{(1/2)} \cos(\pi/4 - 75/2))/10, (88 \exp(-376/5))/5 - (127 \exp(-564/5))/10 + (2^{(1/2)} \cos(\pi/4 - 188/5))/10, (88 \exp(-377/5))/5 - (127 \exp(-1131/10))/10 + (2^{(1/2)} \cos(\pi/4 - 377/10))/10, (88 \exp(-378/5))/5 - (127 \exp(-567/5))/10 + (2^{(1/2)} \cos(\pi/4 - 189/5))/10, (88 \exp(-379/5))/5 - (127 \exp(-1137/10))/10 + (2^{(1/2)} \cos(\pi/4 - 379/10))/10, (88 \exp(-76))/5 - (127 \exp(-114))/10 + (2^{(1/2)} \cos(\pi/4 - 38))/10, (88 \exp(-381/5))/5 - (127 \exp(-1143/10))/10 + (2^{(1/2)} \cos(\pi/4 - 381/10))/10, (88 \exp(-382/5))/5 - (127 \exp(-573/5))/10 + (2^{(1/2)} \cos(\pi/4 - 191/5))/10, (88 \exp(-383/5))/5 - (127 \exp(-1149/10))/10 + (2^{(1/2)} \cos(\pi/4 - 383/10))/10, (88 \exp(-384/5))/5 - (127 \exp(-576/5))/10 + (2^{(1/2)} \cos(\pi/4 - 192/5))/10, (88 \exp(-77))/5 - (127 \exp(-231/2))/10 + (2^{(1/2)} \cos(\pi/4 - 77/2))/10, (88 \exp(-386/5))/5 - (127 \exp(-579/5))/10 + (2^{(1/2)} \cos(\pi/4 - 193/5))/10, (88 \exp(-387/5))/5 - (127 \exp(-1161/10))/10 + (2^{(1/2)} \cos(\pi/4 - 387/10))/10, (88 \exp(-388/5))/5 - (127 \exp(-582/5))/10 + (2^{(1/2)} \cos(\pi/4 - 194/5))/10, (88 \exp(-389/5))/5 - (127 \exp(-1167/10))/10 + (2^{(1/2)} \cos(\pi/4 - 389/10))/10, (88 \exp(-78))/5 - (127 \exp(-117))/10 + (2^{(1/2)} \cos(\pi/4 - 39))/10, (88 \exp(-391/5))/5 - (127 \exp(-1173/10))/10 + (2^{(1/2)} \cos(\pi/4 - 391/10))/10, (88 \exp(-392/5))/5 - (127 \exp(-588/5))/10 + (2^{(1/2)} \cos(\pi/4 - 196/5))/10, (88 \exp(-393/5))/5$

$$\begin{aligned}
& - (127 \exp(-1179/10))/10 + (2^{1/2} \cos(\pi/4 - 393/10))/10, \\
& (88 \exp(-394/5))/5 - (127 \exp(-591/5))/10 + (2^{1/2} \cos(\pi/4 - 197/5))/10, \\
& (88 \exp(-79))/5 - (127 \exp(-237/2))/10 + (2^{1/2} \cos(\pi/4 - 79/2))/10, \\
& (88 \exp(-396/5))/5 - (127 \exp(-594/5))/10 + (2^{1/2} \cos(\pi/4 - 198/5))/10, \\
& (88 \exp(-397/5))/5 - (127 \exp(-1191/10))/10 + (2^{1/2} \cos(\pi/4 - 397/10))/10, \\
& (88 \exp(-398/5))/5 - (127 \exp(-597/5))/10 + (2^{1/2} \cos(\pi/4 - 199/5))/10, \\
& (88 \exp(-399/5))/5 - (127 \exp(-1197/10))/10 + (2^{1/2} \cos(\pi/4 - 399/10))/10, \\
& (88 \exp(-80))/5 - (127 \exp(-120))/10 + (2^{1/2} \cos(\pi/4 - 40))/10, \\
& (88 \exp(-401/5))/5 - (127 \exp(-1203/10))/10 + (2^{1/2} \cos(\pi/4 - 401/10))/10, \\
& (88 \exp(-402/5))/5 - (127 \exp(-603/5))/10 + (2^{1/2} \cos(\pi/4 - 201/5))/10, \\
& (88 \exp(-403/5))/5 - (127 \exp(-1209/10))/10 + (2^{1/2} \cos(\pi/4 - 403/10))/10, \\
& (88 \exp(-404/5))/5 - (127 \exp(-606/5))/10 + (2^{1/2} \cos(\pi/4 - 202/5))/10, \\
& (88 \exp(-81))/5 - (127 \exp(-243/2))/10 + (2^{1/2} \cos(\pi/4 - 81/2))/10, \\
& (88 \exp(-406/5))/5 - (127 \exp(-609/5))/10 + (2^{1/2} \cos(\pi/4 - 203/5))/10, \\
& (88 \exp(-407/5))/5 - (127 \exp(-1221/10))/10 + (2^{1/2} \cos(\pi/4 - 407/10))/10, \\
& (88 \exp(-408/5))/5 - (127 \exp(-612/5))/10 + (2^{1/2} \cos(\pi/4 - 204/5))/10, \\
& (88 \exp(-409/5))/5 - (127 \exp(-1227/10))/10 + (2^{1/2} \cos(\pi/4 - 409/10))/10, \\
& (88 \exp(-82))/5 - (127 \exp(-123))/10 + (2^{1/2} \cos(\pi/4 - 41))/10, \\
& (88 \exp(-411/5))/5 - (127 \exp(-1233/10))/10 + (2^{1/2} \cos(\pi/4 - 411/10))/10, \\
& (88 \exp(-412/5))/5 - (127 \exp(-618/5))/10 + (2^{1/2} \cos(\pi/4 - 206/5))/10, \\
& (88 \exp(-413/5))/5 - (127 \exp(-1239/10))/10 + (2^{1/2} \cos(\pi/4 - 413/10))/10, \\
& (88 \exp(-414/5))/5 - (127 \exp(-621/5))/10 + (2^{1/2} \cos(\pi/4 - 207/5))/10, \\
& (88 \exp(-83))/5 - (127 \exp(-249/2))/10 + (2^{1/2} \cos(\pi/4 - 83/2))/10, \\
& (88 \exp(-416/5))/5 - (127 \exp(-624/5))/10 + (2^{1/2} \cos(\pi/4 - 208/5))/10, \\
& (88 \exp(-417/5))/5 - (127 \exp(-1251/10))/10 + (2^{1/2} \cos(\pi/4 - 417/10))/10, \\
& (88 \exp(-418/5))/5 - (127 \exp(-627/5))/10 + (2^{1/2} \cos(\pi/4 - 209/5))/10, \\
& (88 \exp(-419/5))/5 - (127 \exp(-1257/10))/10 + (2^{1/2} \cos(\pi/4 - 419/10))/10, \\
& (88 \exp(-84))/5 - (127 \exp(-126))/10 + (2^{1/2} \cos(\pi/4 - 42))/10, \\
& (88 \exp(-421/5))/5 - (127 \exp(-1263/10))/10 + (2^{1/2} \cos(\pi/4 - 421/10))/10, \\
& (88 \exp(-422/5))/5 - (127 \exp(-633/5))/10 + (2^{1/2} \cos(\pi/4 - 211/5))/10, \\
& (88 \exp(-423/5))/5 - (127 \exp(-1269/10))/10 + (2^{1/2} \cos(\pi/4 - 423/10))/10, \\
& (88 \exp(-424/5))/5 - (127 \exp(-636/5))/10 + (2^{1/2} \cos(\pi/4 - 212/5))/10, \\
& (88 \exp(-85))/5 - (127 \exp(-255/2))/10 + (2^{1/2} \cos(\pi/4 - 85/2))/10, \\
& (88 \exp(-426/5))/5 - (127 \exp(-639/5))/10 + (2^{1/2} \cos(\pi/4 - 213/5))/10, \\
& (88 \exp(-427/5))/5 - (127 \exp(-1281/10))/10 + (2^{1/2} \cos(\pi/4 - 427/10))/10, \\
& (88 \exp(-428/5))/5 - (127 \exp(-642/5))/10 + (2^{1/2} \cos(\pi/4 - 214/5))/10, \\
& (88 \exp(-429/5))/5 - (127 \exp(-1287/10))/10 + (2^{1/2} \cos(\pi/4 - 429/10))/10, \\
& (88 \exp(-86))/5 - (127 \exp(-129))/10 + (2^{1/2} \cos(\pi/4 -
\end{aligned}$$

```

43))/10, (88*exp(-431/5))/5 - (127*exp(-1293/10))/10 +
(2^(1/2)*cos(pi/4 - 431/10))/10, (88*exp(-432/5))/5 - (127*exp(-
648/5))/10 + (2^(1/2)*cos(pi/4 - 216/5))/10, (88*exp(-433/5))/5
- (127*exp(-1299/10))/10 + (2^(1/2)*cos(pi/4 - 433/10))/10,
(88*exp(-434/5))/5 - (127*exp(-651/5))/10 + (2^(1/2)*cos(pi/4 -
217/5))/10, (88*exp(-87))/5 - (127*exp(-261/2))/10 +
(2^(1/2)*cos(pi/4 - 87/2))/10, (88*exp(-436/5))/5 - (127*exp(-
654/5))/10 + (2^(1/2)*cos(pi/4 - 218/5))/10, (88*exp(-437/5))/5
- (127*exp(-1311/10))/10 + (2^(1/2)*cos(pi/4 - 437/10))/10,
(88*exp(-438/5))/5 - (12... Output truncated. Text exceeds
maximum line length for Command Window display.
>>

```



2.

```

commandwindow
clear
clc
close all
syms T1(t) T2(t)
tn=[0:0.1:3.5]
z=[diff(T1,t)+3*T2==exp(-2*t),diff(T2,t)-3*T1==exp(2*t)]
zcond=[T1(0)==30,T2(0)==30]
v = dsolve(z,zcond)
T1= v.T1
T2= v.T2
TA=subs(T1,tn)

```

```

figure(1)
plot(tn,TA)
xlabel('time(min)')
ylabel('temperature 1(celsius)')
figure(2)
TB =subs(T2,tn)
plot(tn,TB)
xlabel('time(min)')
ylabel('temperature 2(celsius)')
grid on
grid minor
axis tight

```

ANSWER:

tn =

Columns 1 through 12

```

      0      0.1000      0.2000      0.3000      0.4000      0.5000
0.6000      0.7000      0.8000      0.9000      1.0000      1.1000

```

Columns 13 through 24

```

      1.2000      1.3000      1.4000      1.5000      1.6000      1.7000
1.8000      1.9000      2.0000      2.1000      2.2000      2.3000

```

Columns 25 through 36

```

      2.4000      2.5000      2.6000      2.7000      2.8000      2.9000
3.0000      3.1000      3.2000      3.3000      3.4000      3.5000

```

z(t) =

```

[ 3*T2(t) + diff(T1(t), t) == exp(-2*t), diff(T2(t), t) -
3*T1(t) == exp(2*t)]

```

zcond =

```

[ T1(0) == 30, T2(0) == 30]

```

v =

struct with fields:

```

T2: [1×1 sym]
T1: [1×1 sym]

```

T1 =

$$(5*12170^{(1/2)}*\cos(3*t + \operatorname{atan}(77/79)))/13 - (3*\exp(2*t))/13 - (2*\exp(-2*t))/13$$

T2 =

$$(3*\exp(-2*t))/13 + (2*\exp(2*t))/13 + (5*12170^{(1/2)}*\cos(3*t - \operatorname{atan}(79/77)))/13$$

TA =

$$\begin{aligned} & [30, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 3/10))/13 - \\ & (3*\exp(1/5))/13 - (2*\exp(-1/5))/13, \\ & (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 3/5))/13 - (3*\exp(2/5))/13 - \\ & (2*\exp(-2/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 9/10))/13 - \\ & (3*\exp(3/5))/13 - (2*\exp(-3/5))/13, \\ & (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 6/5))/13 - (3*\exp(4/5))/13 - \\ & (2*\exp(-4/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 3/2))/13 - \\ & (3*\exp(1))/13 - (2*\exp(-1))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + \\ & 9/5))/13 - (3*\exp(6/5))/13 - (2*\exp(-6/5))/13, \\ & (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 21/10))/13 - (3*\exp(7/5))/13 - \\ & (2*\exp(-7/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 12/5))/13 - \\ & (3*\exp(8/5))/13 - (2*\exp(-8/5))/13, \\ & (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 27/10))/13 - (3*\exp(9/5))/13 - \\ & (2*\exp(-9/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 3))/13 - \\ & (3*\exp(2))/13 - (2*\exp(-2))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + \\ & 33/10))/13 - (3*\exp(11/5))/13 - (2*\exp(-11/5))/13, \\ & (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 18/5))/13 - (3*\exp(12/5))/13 - \\ & (2*\exp(-12/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 39/10))/13 - \\ & (3*\exp(13/5))/13 - (2*\exp(-13/5))/13, \\ & (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 21/5))/13 - (3*\exp(14/5))/13 - \\ & (2*\exp(-14/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 9/2))/13 - \\ & (3*\exp(3))/13 - (2*\exp(-3))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + \\ & 24/5))/13 - (3*\exp(16/5))/13 - (2*\exp(-16/5))/13, \\ & (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 51/10))/13 - (3*\exp(17/5))/13 - \\ & (2*\exp(-17/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 27/5))/13 - \\ & (3*\exp(18/5))/13 - (2*\exp(-18/5))/13, \\ & (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 57/10))/13 - (3*\exp(19/5))/13 - \\ & (2*\exp(-19/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 6))/13 - \\ & (3*\exp(4))/13 - (2*\exp(-4))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + \\ & 63/10))/13 - (3*\exp(21/5))/13 - (2*\exp(-21/5))/13, \\ & (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 33/5))/13 - (3*\exp(22/5))/13 - \end{aligned}$$

$$\begin{aligned}
& (2*\exp(-22/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 69/10))/13 - \\
& (3*\exp(23/5))/13 - (2*\exp(-23/5))/13, \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 36/5))/13 - (3*\exp(24/5))/13 - \\
& (2*\exp(-24/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 15/2))/13 - \\
& (3*\exp(5))/13 - (2*\exp(-5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + \\
& 39/5))/13 - (3*\exp(26/5))/13 - (2*\exp(-26/5))/13, \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 81/10))/13 - (3*\exp(27/5))/13 - \\
& (2*\exp(-27/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 42/5))/13 - \\
& (3*\exp(28/5))/13 - (2*\exp(-28/5))/13, \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 87/10))/13 - (3*\exp(29/5))/13 - \\
& (2*\exp(-29/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 9))/13 - \\
& (3*\exp(6))/13 - (2*\exp(-6))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + \\
& 93/10))/13 - (3*\exp(31/5))/13 - (2*\exp(-31/5))/13, \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 48/5))/13 - (3*\exp(32/5))/13 - \\
& (2*\exp(-32/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 99/10))/13 - \\
& (3*\exp(33/5))/13 - (2*\exp(-33/5))/13, \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 51/5))/13 - (3*\exp(34/5))/13 - \\
& (2*\exp(-34/5))/13, (5*12170^{(1/2)}*\cos(\operatorname{atan}(77/79) + 21/2))/13 - \\
& (3*\exp(7))/13 - (2*\exp(-7))/13]
\end{aligned}$$

TB =

$$\begin{aligned}
& [30, (3*\exp(-1/5))/13 + (2*\exp(1/5))/13 + \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 3/10))/13, (3*\exp(-2/5))/13 + \\
& (2*\exp(2/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 3/5))/13, \\
& (3*\exp(-3/5))/13 + (2*\exp(3/5))/13 + \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 9/10))/13, (3*\exp(-4/5))/13 + \\
& (2*\exp(4/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 6/5))/13, \\
& (3*\exp(-1))/13 + (2*\exp(1))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) \\
& - 3/2))/13, (3*\exp(-6/5))/13 + (2*\exp(6/5))/13 + \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 9/5))/13, (3*\exp(-7/5))/13 + \\
& (2*\exp(7/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 21/10))/13, \\
& (3*\exp(-8/5))/13 + (2*\exp(8/5))/13 + \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 12/5))/13, (3*\exp(-9/5))/13 + \\
& (2*\exp(9/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 27/10))/13, \\
& (3*\exp(-2))/13 + (2*\exp(2))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) \\
& - 3))/13, (3*\exp(-11/5))/13 + (2*\exp(11/5))/13 + \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 33/10))/13, (3*\exp(-12/5))/13 + \\
& (2*\exp(12/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 18/5))/13, \\
& (3*\exp(-13/5))/13 + (2*\exp(13/5))/13 + \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 39/10))/13, (3*\exp(-14/5))/13 + \\
& (2*\exp(14/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 21/5))/13, \\
& (3*\exp(-3))/13 + (2*\exp(3))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) \\
& - 9/2))/13, (3*\exp(-16/5))/13 + (2*\exp(16/5))/13 + \\
& (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 24/5))/13, (3*\exp(-17/5))/13 + \\
& (2*\exp(17/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 51/10))/13,
\end{aligned}$$

$(3*\exp(-18/5))/13 + (2*\exp(18/5))/13 +$
 $(5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 27/5))/13, (3*\exp(-19/5))/13 +$
 $(2*\exp(19/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 57/10))/13,$
 $(3*\exp(-4))/13 + (2*\exp(4))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77)$
 $- 6))/13, (3*\exp(-21/5))/13 + (2*\exp(21/5))/13 +$
 $(5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 63/10))/13, (3*\exp(-22/5))/13 +$
 $(2*\exp(22/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 33/5))/13,$
 $(3*\exp(-23/5))/13 + (2*\exp(23/5))/13 +$
 $(5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 69/10))/13, (3*\exp(-24/5))/13 +$
 $(2*\exp(24/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 36/5))/13,$
 $(3*\exp(-5))/13 + (2*\exp(5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77)$
 $- 15/2))/13, (3*\exp(-26/5))/13 + (2*\exp(26/5))/13 +$
 $(5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 39/5))/13, (3*\exp(-27/5))/13 +$
 $(2*\exp(27/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 81/10))/13,$
 $(3*\exp(-28/5))/13 + (2*\exp(28/5))/13 +$
 $(5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 42/5))/13, (3*\exp(-29/5))/13 +$
 $(2*\exp(29/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 87/10))/13,$
 $(3*\exp(-6))/13 + (2*\exp(6))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77)$
 $- 9))/13, (3*\exp(-31/5))/13 + (2*\exp(31/5))/13 +$
 $(5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 93/10))/13, (3*\exp(-32/5))/13 +$
 $(2*\exp(32/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 48/5))/13,$
 $(3*\exp(-33/5))/13 + (2*\exp(33/5))/13 +$
 $(5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 99/10))/13, (3*\exp(-34/5))/13 +$
 $(2*\exp(34/5))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77) - 51/5))/13,$
 $(3*\exp(-7))/13 + (2*\exp(7))/13 + (5*12170^{(1/2)}*\cos(\operatorname{atan}(79/77)$
 $- 21/2))/13]$

FIGURE 1

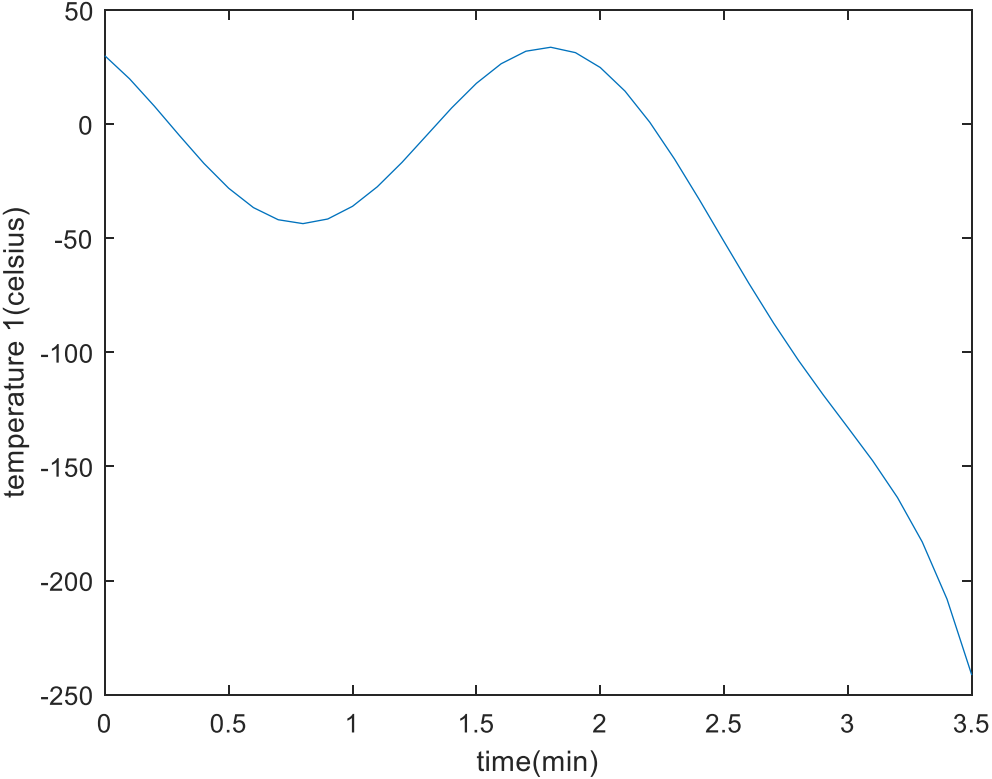
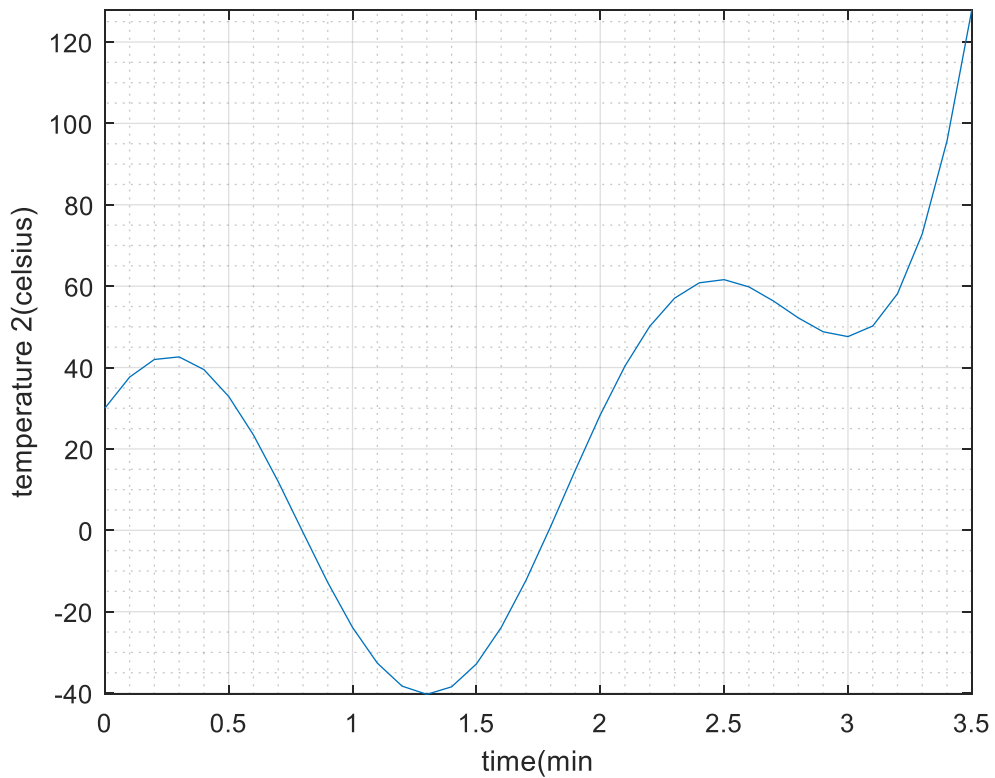


FIGURE 2



3.

```

commandwindow
clear
clc
syms I(t) L R E
z= L*diff(I,t)+R*I==E
v= dsolve(z)

```

ANSWER:

$z(t) =$

$L \cdot \text{diff}(I(t), t) + R \cdot I(t) == E$

$v =$

$(E - C5 \cdot \exp(-R \cdot t / L)) / R$

4.

```

commandwindow
clear
clc
syms k a t w
ft=k*exp(-a*t)*cos(w*t)
fs=laplace(ft)
pretty(fs)

```


ANSWER:

ft =

$$k \cdot \exp(-a \cdot t) \cdot \cos(t \cdot w)$$

fs =

$$(k \cdot (a + s)) / ((a + s)^2 + w^2)$$

$$\frac{k (a + s)}{(a + s)^2 + w^2}$$

5.

```
commandwindow
clear
clc
syms s
Fs= pi/(s^2+10*pi*s+24*pi*pi)
Ft= ilaplace(Fs)
```

ANSWER:

Fs =

$$\pi / (s^2 + 10 \cdot \pi \cdot s + 8334140006820045 / 35184372088832)$$

Ft =

$$\frac{\pi \cdot \sinh(t \cdot (25 \cdot \pi^2 - 8334140006820045 / 35184372088832)^{1/2}) \cdot \exp(-5 \cdot \pi \cdot t)}{(25 \cdot \pi^2 - 8334140006820045 / 35184372088832)^{1/2}}$$