```
figdisp('Grupo 1')
Grupo 1
disp('NRC: 7543')
NRC: 7543
clock

ans =

   1.0e+03 *

   2.0220    0.0020    0.0100    0.0220    0.0220    0.0441

date

ans =

   '10-Feb-2022'

clc
disp('Prigrama de diferenciacion numerica')
Prigrama de diferenciacion numerica
help fdiff
  <strong>fdiff</strong> deriva funciones de manera numerica

  <strong>Llamada a la funcion</strong>
  [Ea,Er,Rt,F] = <strong>fdiff</strong>(f,o,t,x,h)

  <strong>Parametros de entrada</strong>
  <strong>f:</strong> Funcion deribable y continua
  <strong>o:</strong> Orden de la derivada 0< o <4
  <strong>t:</strong> Tipo de diferenciacion :
        <strong>0</strong> - Diferenciacion hacia atras
        <strong>1</strong> - Diferenciacion hacia adelante
        <strong>2</strong> - Diferenciacion hacia centrada
        <strong>3</strong> - Todos los metodos
  <strong>x:</strong> Punto a evaluar que debe de estar dentro del
dominio
  <strong>h:</strong> Paso de la derivada

syms x
f=((135*log(abs(2*sqrt(x^2-3*x+2)+2*x-3)))+((sqrt(x^2-
3*x+2))*(16*x^2+52*x+202)))/16

f =

(135*log(abs(2*x + 2*(x^2 - 3*x + 2)^(1/2) - 3)))/16 + ((x^2 - 3*x +
2)^(1/2)*(16*x^2 + 52*x + 202))/16

disp('Primera derivada')
Primera derivada
[Ea,Er,Rt,F] = fdiff(f,1,3,0.5,0.1)
<strong>Diferenciacion hacia adelante
</strong>     <strong>i</strong>           <strong>hi</strong>
<strong>f(hi)</strong>          <strong>Ea</strong>
<strong>Er</strong>            <strong>Rt</strong>
<strong>Derivada</strong>
    <strong>__</strong>     <strong>_____</strong>
<strong>_____</strong>     <strong>_____</strong>
```

1	0.1	0.6	0.026652	-0.79643	21.803	-3.3464
2	0.05	0.7	0.0051728	-0.15558	15.129	-3.3249
3	0.025	0.8	0.0011395	-0.034312	10.934	-3.3209
4	0.0125	0.9	0.00026726	-0.0080498	8.1528	-3.32
5	0.00625	1	6.4702e-05	-0.001949	6.2314	-3.3198
6	0.003125	1.1	1.5917e-05	-0.00047946	4.8605	-3.3198
7	0.0015625	1.2	3.9472e-06	-0.0001189	3.8564	-3.3198
8	0.00078125	1.3	9.8282e-07	-2.9605e-05	3.1045	-3.3198
9	0.00039063	1.4	2.4521e-07	-7.3863e-06	2.5309	-3.3198
10	0.00019531	1.5	6.124e-08	-1.8447e-06	2.0862	-3.3198
11	9.7656e-05	1.6	1.5302e-08	-4.6095e-07	1.7367	-3.3198
12	4.8828e-05	1.7	3.8246e-09	-1.1521e-07	1.4584	-3.3198
13	-0.8	5.3198	3.8246e-09	-1.1521e-07	-3.3198	0

Diferenciacion hacia atras

i	**hi**	**f(hi)**	**Ea**	**Er**	**Rt**	**Derivada**
1	0.1	0.6	0.0091784	-0.27572	21.803	-3.3289
2	0.05	0.7	0.0030705	-0.092405	15.129	-3.3228
3	0.025	0.8	0.00087909	-0.026474	10.934	-3.3206
4	0.0125	0.9	0.00023478	-0.0070717	8.1528	-3.32
5	0.00625	1	6.0645e-05	-0.0018268	6.2314	-3.3198
6	0.003125	1.1	1.541e-05	-0.00046418	4.8605	-3.3198
7	0.0015625	1.2	3.8838e-06	-0.00011699	3.8564	-3.3198
8	0.00078125	1.3	9.749e-07	-2.9366e-05	3.1045	-3.3198
9	0.00039063	1.4	2.4422e-07	-7.3565e-06	2.5309	-3.3198

i	hi	f(hi)	Ea	Er	Rt	Derivada
10	0.00019531	1.5	6.1116e-08	-1.841e-06	2.0862	-3.3198
11	9.7656e-05	1.6	1.5287e-08	-4.6048e-07	1.7367	-3.3198
12	4.8828e-05	1.7	3.8227e-09	-1.1515e-07	1.4584	-3.3198
13	2.4414e-05	1.8	3.8227e-09	-1.1515e-07	1.4584	-3.3198

Diferenciacion centrada **i** **hi** **f(hi)** **Ea** **Er** **Rt** **Derivada**
_ **_____** **_____** **_____** **_____** **_____** **_____**

i	hi	f(hi)	Ea	Er	Rt	Derivada
1	0.1	0.6	0.00054043	-0.016276	21.803	-3.3203
2	0.05	0.7	3.2135e-05	-0.00096797	15.129	-3.3198
3	0.025	0.8	1.9846e-06	-5.9782e-05	10.934	-3.3198
4	0.0125	0.9	1.2367e-07	-3.7254e-06	8.1528	-3.3198
5	0.00625	1	7.7239e-09	-2.3267e-07	6.2314	-3.3198
6	0.003125	1.1	7.7239e-09	-2.3267e-07	6.2314	-3.3198

Elapsed time is 4.541800 seconds.

Ea =

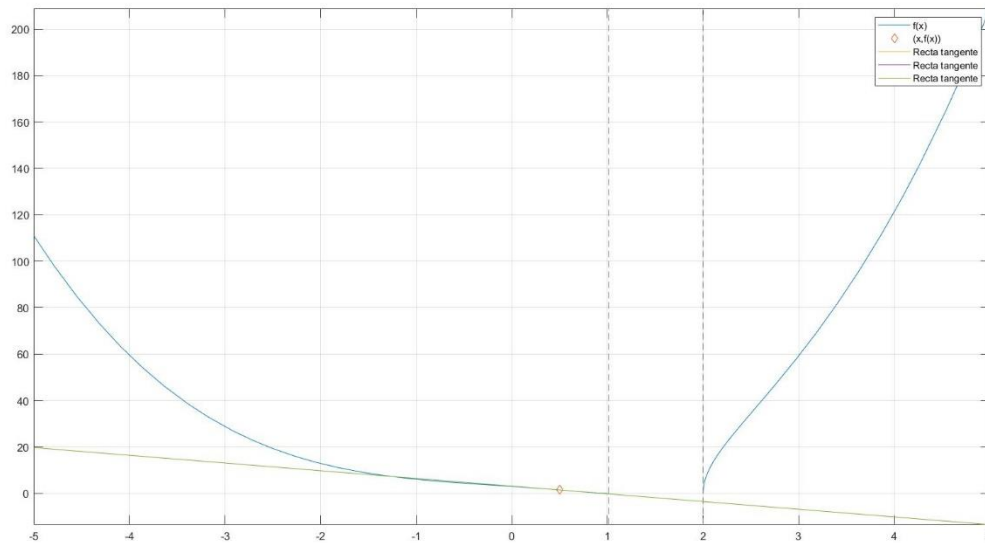   7.7239e-09

Er =

  -2.3267e-07

Rt =

   6.2314

F =

  -3.3198

```
disp('Segunda Derivada')
Segunda Derivada
[Ea,Er,Rt,F] = fdiff(f,2,3,0.5,0.1)
<strong>Diferenciacion hacia adelante
</strong>[ Warning: Unable to solve symbolically. Returning a numeric
solution using
<a href="matlab:web(fullfile(docroot,
'symbolic/vpasolve.html'))">vpasolve</a>.]
[ > In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('sym
/solve', 'C:\Program
Files\Polyspace\R2020a\toolbox\symbolic\symbolic\@sym\solve.m', 304)"
style="font-weight:bold">sym/solve</a> (<a href="matlab:
opentoline('C:\Program
Files\Polyspace\R2020a\toolbox\symbolic\symbolic\@sym\solve.m',304,0)">li
ne 304</a>)
  In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('fdi
ff/pCriticos', 'C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m', 320)" style="font-
weight:bold">fdiff/pCriticos</a> (<a href="matlab:
opentoline('C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m',320,0)">line 320</a>)
  In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('fdi
ff/diff_adelante', 'C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m', 183)" style="font-
weight:bold">fdiff/diff_adelante</a> (<a href="matlab:
opentoline('C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m',183,0)">line 183</a>)
  In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('fdi
ff', 'C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m', 51)" style="font-
weight:bold">fdiff</a> (<a href="matlab:
```

opentoline('C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m',51,0)">line 51)]
    i   hi
f(hi)   Ea
Er   Rt
Derivada
    __   _____
_____   _____
_____   _____
_____

i	hi	f(hi)	Ea	Er	Rt	Derivada
1	0.1	0.6	0.56773	-45.737	21.803	-1.2413
2	0.05	0.7	0.10018	-12.948	15.129	-0.77376
3	0.025	0.8	0.021689	-3.1195	10.934	-0.69526
4	0.0125	0.9	0.0050724	-0.74743	8.1528	-0.67865
5	0.00625	1	0.0012279	-0.18197	6.2314	-0.6748
6	0.003125	1.1	0.00030216	-0.044839	4.8605	-0.67388
7	0.0015625	1.2	7.495e-05	-0.011126	3.8564	-0.67365
8	0.00078125	1.3	1.8664e-05	-0.0027709	3.1045	-0.67359
9	0.00039063	1.4	4.657e-06	-0.00069138	2.5309	-0.67358
10	0.00019531	1.5	1.1631e-06	-0.00017268	2.0862	-0.67358
11	9.7656e-05	1.6	2.9064e-07	-4.3148e-05	1.7367	-0.67358
12	4.8828e-05	1.7	7.2641e-08	-1.0784e-05	1.4584	-0.67358
13	2.4414e-05	1.8	1.8158e-08	-2.6958e-06	1.2344	-0.67358
14	1.2207e-05	1.9	4.5393e-09	-6.739e-07	1.0523	-0.67358
15	-1	6.0711	4.5393e-09	-6.739e-07	-0.67358	0

Diferenciacion hacia atras
[Warning: Unable to solve symbolically. Returning a numeric
solution using
<a href="matlab:web(fullfile(docroot,
'symbolic/vpasolve.html'))">vpasolve.]
[> In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('sym
/solve', 'C:\Program
Files\Polyspace\R2020a\toolbox\symbolic\symbolic\@sym\solve.m', 304)"
style="font-weight:bold">sym/solve (<a href="matlab:
opentoline('C:\Program
Files\Polyspace\R2020a\toolbox\symbolic\symbolic\@sym\solve.m',304,0)">li
ne 304)
  In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('fdi
ff/pCriticos', 'C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.

Numericos\Grupal\Diferenciacion Numerica\fdiff.m', 320)" style="font-weight:bold">fdiff/pCriticos (line 320)
    In fdiff/diff_atras (line 103)
    In fdiff (line 53)]
    i   hi   f(hi)   Ea   Er   Rt   Derivada
    __   _____   _____   _____   _____   _____   _____

i	hi	f(hi)	Ea	Er	Rt	Derivada
1	0.1	0.6	0.19795	-22.713	21.803	-0.87153
2	0.05	0.7	0.06048	-8.2391	15.129	-0.73406
3	0.025	0.8	0.016892	-2.4464	10.934	-0.69047
4	0.0125	0.9	0.0044778	-0.66039	8.1528	-0.67805
5	0.00625	1	0.0011538	-0.17099	6.2314	-0.67473
6	0.003125	1.1	0.00029289	-0.043464	4.8605	-0.67387
7	0.0015625	1.2	7.3791e-05	-0.010954	3.8564	-0.67365
8	0.00078125	1.3	1.852e-05	-0.0027494	3.1045	-0.67359
9	0.00039063	1.4	4.6389e-06	-0.00068869	2.5309	-0.67358
10	0.00019531	1.5	1.1608e-06	-0.00017234	2.0862	-0.67358
11	9.7656e-05	1.6	2.9035e-07	-4.3106e-05	1.7367	-0.67358
12	4.8828e-05	1.7	7.2606e-08	-1.0779e-05	1.4584	-0.67358
13	2.4414e-05	1.8	1.8154e-08	-2.6951e-06	1.2344	-0.67358
14	1.2207e-05	1.9	4.5387e-09	-6.7382e-07	1.0523	-0.67358

<strong>Diferenciacion centrada

```
</strong>[ Warning: Unable to solve symbolically. Returning a numeric
solution using
<a href="matlab:web(fullfile(docroot,
'symbolic/vpasolve.html'))">vpasolve</a>.]
[ > In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('sym
/solve', 'C:\Program
Files\Polyspace\R2020a\toolbox\symbolic\symbolic\@sym\solve.m', 304)"
style="font-weight:bold">sym/solve</a> (<a href="matlab:
opentoline('C:\Program
Files\Polyspace\R2020a\toolbox\symbolic\symbolic\@sym\solve.m',304,0)">li
ne 304</a>)
  In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('fdi
ff/pCriticos', 'C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m', 320)" style="font-
weight:bold">fdiff/pCriticos</a> (<a href="matlab:
opentoline('C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m',320,0)">line 320</a>)
  In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('fdi
ff/diff_centrada', 'C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m', 267)" style="font-
weight:bold">fdiff/diff_centrada</a> (<a href="matlab:
opentoline('C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m',267,0)">line 267</a>)
  In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('fdi
ff', 'C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m', 55)" style="font-
weight:bold">fdiff</a> (<a href="matlab:
opentoline('C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m',55,0)">line 55</a>)]
    <strong>i</strong>        <strong>hi</strong>
<strong>f(hi)</strong>          <strong>Ea</strong>
<strong>Er</strong>          <strong>Rt</strong>
<strong>Derivada</strong>
    <strong>_</strong>    <strong>_____</strong>
<strong>_____</strong>    <strong>_____</strong>
<strong>_____</strong>    <strong>_____</strong>
<strong>_____</strong>
```

i	hi	f(hi)	Ea	Er	Rt	Derivada
1	0.1	0.6	0.0011592	-0.1718	21.803	-0.67473
2	0.05	0.7	6.8137e-05	-0.010115	15.129	-0.67364
3	0.025	0.8	4.1966e-06	-0.00062304	10.934	-0.67358
4	0.0125	0.9	2.6134e-07	-3.8799e-05	8.1528	-0.67358
5	0.00625	1	1.6319e-08	-2.4228e-06	6.2314	-0.67358
6	0.003125	1.1	1.0197e-09	-1.5139e-07	4.8605	-0.67358

```
Elapsed time is 6.036066 seconds.

Ea =
```

```
    1.0197e-09


Er =

  -1.5139e-07


Rt =

   4.8605


F =

  -0.6736
```


Máximos y mínimos
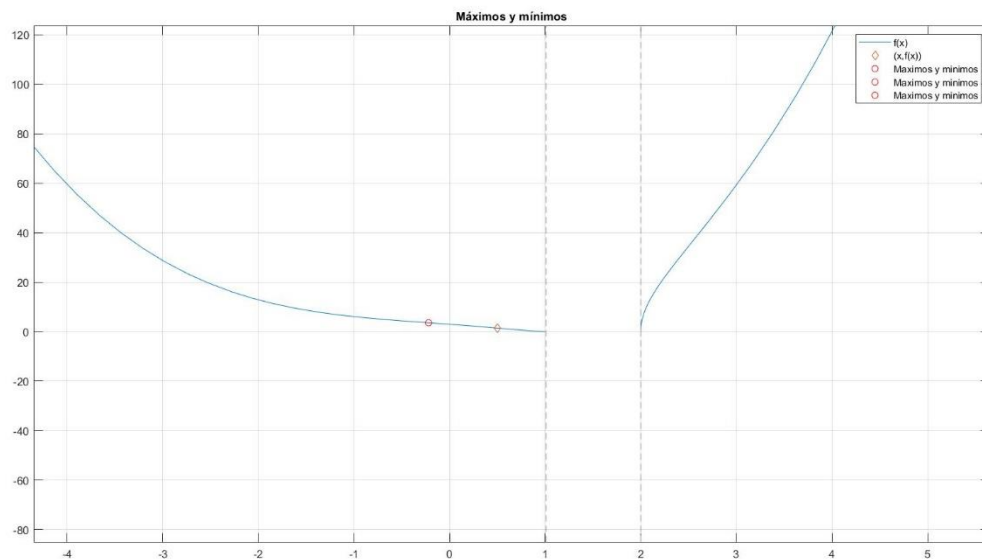
```
disp('Tercera Derivada')
Tercera Derivada
[Ea,Er,Rt,F] = fdiff(f,3,3,0.5,0.1)
<strong>Diferenciacion hacia adelante
</strong>[ Warning: Unable to solve symbolically. Returning a numeric
solution using
<a href="matlab:web(fullfile(docroot,
'symbolic/vpasolve.html'))">vpasolve</a>.]
[ > In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('sym
/solve', 'C:\Program
Files\Polyspace\R2020a\toolbox\symbolic\symbolic\@sym\solve.m', 304)"
style="font-weight:bold">sym/solve</a> (<a href="matlab:
opentoline('C:\Program
Files\Polyspace\R2020a\toolbox\symbolic\symbolic\@sym\solve.m',304,0)">li
ne 304</a>)
  In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('fdi
ff/pInflexion', 'C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
```

i	**hi**	**f(hi)**	**Ea**	**Er**	**Rt**	**Derivada**
1	0.1	0.6	10.119	-190.65	21.803	-5.3074
2	0.05	0.7	1.1249	30.515	15.129	3.6863
3	0.025	0.8	0.21166	4.6018	10.934	4.5996
4	0.0125	0.9	0.046668	0.97948	8.1528	4.7646
5	0.00625	1	0.010993	0.22901	6.2314	4.8003
6	0.003125	1.1	0.0026697	0.055519	4.8605	4.8086
7	0.0015625	1.2	0.00065793	0.013677	3.8564	4.8106
8	0.00078125	1.3	0.00016332	0.0033946	3.1045	4.8111
9	0.00039063	1.4	4.0685e-05	0.00084562	2.5309	4.8112
10	0.00019531	1.5	1.0153e-05	0.00021103	2.0862	4.8112
11	9.7656e-05	1.6	2.536e-06	5.2711e-05	1.7367	4.8112
12	4.8828e-05	1.7	6.3373e-07	1.3172e-05	1.4584	4.8113
13	2.4414e-05	1.8	1.584e-07	3.2922e-06	1.2344	4.8113
14	1.2207e-05	1.9	3.9595e-08	8.2297e-07	1.0523	4.8113
15	6.1035e-06	2	-1.621	-25.201	0.90297	6.4322

16	3.0518e-06	2.1	-95.962	-95.226	0.77946	100.77
17	1.5259e-06	2.2	570.58	-100.85	0.67656	-565.77
18	7.6294e-07	2.3	6639.5	-100.07	0.59023	-6634.7
19	3.8147e-07	2.4	-36517	-99.987	0.51736	36522
20	1.9073e-07	2.5	-4.2493e+05	-99.999	0.45547	4.2493e+05
21	9.5367e-08	2.6	2.3371e+06	-100	0.40262	-2.3371e+06
22	4.7684e-08	2.7	2.7196e+07	-100	0.35727	-2.7196e+07
23	2.3842e-08	2.8	-1.4958e+08	-100	0.31817	1.4958e+08
24	1.1921e-08	2.9	-1.7405e+09	-100	0.2843	1.7405e+09
25	5.9605e-09	3	9.5728e+09	-100	0.25485	-9.5728e+09
26	2.9802e-09	3.1	1.1139e+11	-100	0.22913	-1.1139e+11
27	1.4901e-09	3.2	-6.1266e+11	-100	0.20659	6.1266e+11
28	7.4506e-10	3.3	-7.1291e+12	-100	0.18676	7.1291e+12
29	3.7253e-10	3.4	3.921e+13	-100	0.16927	-3.921e+13
30	1.8626e-10	3.5	4.5626e+14	-100	0.15378	-4.5626e+14
31	9.3132e-11	3.6	-2.5095e+15	-100	0.14004	2.5095e+15
32	4.6566e-11	3.7	-2.9201e+16	-100	0.1278	2.9201e+16
33	2.3283e-11	3.8	1.6061e+17	-100	0.11687	-1.6061e+17
34	1.1642e-11	3.9	1.8689e+18	-100	0.10709	-1.8689e+18
35	5.8208e-12	4	-1.0279e+19	-100	0.098317	1.0279e+19
36	2.9104e-12	4.1	-1.1961e+20	-100	0.090425	1.1961e+20
37	1.4552e-12	4.2	6.5784e+20	-100	0.083312	-6.5784e+20
38	7.276e-13	4.3	7.6549e+21	-100	0.076886	-7.6549e+21
39	3.638e-13	4.4	-4.2102e+22	-100	0.07107	4.2102e+22
40	1.819e-13	4.5	-4.8991e+23	-100	0.065794	4.8991e+23
41	9.0949e-14	4.6	2.6945e+24	-100	0.061001	-2.6945e+24
42	4.5475e-14	4.7	3.1354e+25	-100	0.056636	-3.1354e+25
43	2.2737e-14	4.8	-1.7245e+26	-100	0.052657	1.7245e+26
44	1.1369e-14	4.9	-2.3227e+29	-100	0.049021	2.3227e+29

45	5.6843e-15	5	-6.1705e+29	-100	
0.045694	6.1705e+29				
46	2.8422e-15	5.1	4.8113	Inf	
0.042646	0				
47	1.4211e-15	5.2	4.8113	Inf	
0.039847	0				
48	7.1054e-16	5.3	4.8113	Inf	
0.037275	0				
49	3.5527e-16	5.4	4.8113	Inf	
0.034908	0				
50	1.7764e-16	5.5	4.8113	Inf	
0.032726	0				
51	8.8818e-17	5.6	4.8113	Inf	
0.030712	0				
52	4.4409e-17	5.7	4.8113	Inf	
0.028851	0				
53	2.2204e-17	5.8	4.8113	Inf	
0.027129	0				
54	1.1102e-17	5.9	4.8113	Inf	
0.025533	0				
55	5.5511e-18	6	4.8113	Inf	
0.024054	0				
56	2.7756e-18	6.1	4.8113	Inf	
0.02268	0				
57	1.3878e-18	6.2	4.8113	Inf	
0.021403	0				
58	6.9389e-19	6.3	4.8113	Inf	
0.020215	0				
59	3.4694e-19	6.4	4.8113	Inf	
0.019108	0				
60	1.7347e-19	6.5	4.8113	Inf	
0.018076	0				
61	8.6736e-20	6.6	4.8113	Inf	
0.017112	0				
62	4.3368e-20	6.7	4.8113	Inf	
0.016213	0				
63	2.1684e-20	6.8	4.8113	Inf	
0.015371	0				
64	1.0842e-20	6.9	4.8113	Inf	
0.014584	0				
65	5.421e-21	7	4.8113	Inf	
0.013846	0				
66	2.7105e-21	7.1	4.8113	Inf	
0.013155	0				
67	1.3553e-21	7.2	4.8113	Inf	
0.012506	0				
68	6.7763e-22	7.3	4.8113	Inf	
0.011897	0				
69	3.3881e-22	7.4	4.8113	Inf	
0.011324	0				
70	1.6941e-22	7.5	4.8113	Inf	
0.010785	0				
71	8.4703e-23	7.6	4.8113	Inf	
0.010279	0				
72	4.2352e-23	7.7	4.8113	Inf	
0.0098011	0				
73	2.1176e-23	7.8	4.8113	Inf	
0.0093511	0				

74	1.0588e-23	7.9	4.8113	Inf
0.0089267	0			
75	5.294e-24	8	4.8113	Inf
0.0085261	0			
76	2.647e-24	8.1	4.8113	Inf
0.0081477	0			
77	1.3235e-24	8.2	4.8113	Inf
0.0077901	0			
78	6.6174e-25	8.3	4.8113	Inf
0.0074519	0			
79	3.3087e-25	8.4	4.8113	Inf
0.0071319	0			
80	1.6544e-25	8.5	4.8113	Inf
0.0068289	0			
81	8.2718e-26	8.6	4.8113	Inf
0.0065418	0			
82	4.1359e-26	8.7	4.8113	Inf
0.0062697	0			
83	2.068e-26	8.8	4.8113	Inf
0.0060116	0			
84	1.034e-26	8.9	4.8113	Inf
0.0057666	0			
85	5.1699e-27	9	4.8113	Inf
0.005534	0			
86	2.5849e-27	9.1	4.8113	Inf
0.005313	0			
87	1.2925e-27	9.2	4.8113	Inf
0.0051029	0			
88	6.4623e-28	9.3	4.8113	Inf
0.0049032	0			
89	3.2312e-28	9.4	4.8113	Inf
0.0047131	0			
90	1.6156e-28	9.5	4.8113	Inf
0.0045321	0			
91	8.0779e-29	9.6	4.8113	Inf
0.0043598	0			
92	4.039e-29	9.7	4.8113	Inf
0.0041955	0			
93	2.0195e-29	9.8	4.8113	Inf
0.004039	0			
94	1.0097e-29	9.9	4.8113	Inf
0.0038896	0			
95	5.0487e-30	10	4.8113	Inf
0.0037471	0			
96	2.5244e-30	10.1	4.8113	Inf
0.0036111	0			
97	1.2622e-30	10.2	4.8113	Inf
0.0034812	0			
98	6.3109e-31	10.3	4.8113	Inf
0.0033571	0			
99	3.1554e-31	10.4	4.8113	Inf
0.0032385	0			
100	1.5777e-31	10.5	4.8113	Inf
0.0031251	0			
101	7.8886e-32	10.6	4.8113	Inf
0.0030166	0			
102	3.9443e-32	10.7	4.8113	Inf
0.0029127	0			

103	1.9722e-32	10.8	4.8113	Inf	0.0028133	0
104	9.8608e-33	10.9	4.8113	Inf	0.0027181	0
105	4.9304e-33	11	4.8113	Inf	0.0026269	0
106	2.4652e-33	11.1	4.8113	Inf	0.0025395	0
107	1.2326e-33	11.2	4.8113	Inf	0.0024557	0
108	6.163e-34	11.3	4.8113	Inf	0.0023753	0
109	3.0815e-34	11.4	4.8113	Inf	0.0022982	0
110	1.5407e-34	11.5	4.8113	Inf	0.0022242	0
111	7.7037e-35	11.6	4.8113	Inf	0.0021532	0
112	3.8519e-35	11.7	4.8113	Inf	0.002085	0
113	1.9259e-35	11.8	4.8113	Inf	0.0020194	0
114	9.6296e-36	11.9	4.8113	Inf	0.0019564	0
115	4.8148e-36	12	4.8113	Inf	0.0018959	0
116	2.4074e-36	12.1	4.8113	Inf	0.0018376	0
117	1.2037e-36	12.2	4.8113	Inf	0.0017816	0
118	6.0185e-37	12.3	4.8113	Inf	0.0017277	0
119	3.0093e-37	12.4	4.8113	Inf	0.0016759	0
120	1.5046e-37	12.5	4.8113	Inf	0.0016259	0
121	7.5232e-38	12.6	4.8113	Inf	0.0015778	0
122	3.7616e-38	12.7	4.8113	Inf	0.0015315	0
123	1.8808e-38	12.8	4.8113	Inf	0.0014869	0
124	9.404e-39	12.9	4.8113	Inf	0.0014439	0
125	4.702e-39	13	4.8113	Inf	0.0014024	0
126	2.351e-39	13.1	4.8113	Inf	0.0013624	0
127	1.1755e-39	13.2	4.8113	Inf	0.0013238	0
128	5.8775e-40	13.3	4.8113	Inf	0.0012866	0
129	2.9387e-40	13.4	4.8113	Inf	0.0012507	0
130	1.4694e-40	13.5	4.8113	Inf	0.001216	0
131	7.3468e-41	13.6	4.8113	Inf	0.0011825	0

132	3.6734e-41	13.7	4.8113	Inf
0.0011502		0		
133	1.8367e-41	13.8	4.8113	Inf
0.0011189		0		
134	9.1835e-42	13.9	4.8113	Inf
0.0010887		0		
135	4.5918e-42	14	4.8113	Inf
0.0010595		0		
136	2.2959e-42	14.1	4.8113	Inf
0.0010313		0		
137	1.1479e-42	14.2	4.8113	Inf
0.0010041		0		
138	5.7397e-43	14.3	4.8113	Inf
0.00097769		0		
139	2.8699e-43	14.4	4.8113	Inf
0.00095218		0		
140	1.4349e-43	14.5	4.8113	Inf
0.00092749		0		
141	7.1746e-44	14.6	4.8113	Inf
0.00090359		0		
142	3.5873e-44	14.7	4.8113	Inf
0.00088047		0		
143	1.7937e-44	14.8	4.8113	Inf
0.00085807		0		
144	8.9683e-45	14.9	4.8113	Inf
0.00083639		0		
145	4.4842e-45	15	4.8113	Inf
0.00081538		0		
146	2.2421e-45	15.1	4.8113	Inf
0.00079503		0		
147	1.121e-45	15.2	4.8113	Inf
0.00077531		0		
148	5.6052e-46	15.3	4.8113	Inf
0.0007562		0		
149	2.8026e-46	15.4	4.8113	Inf
0.00073768		0		
150	1.4013e-46	15.5	4.8113	Inf
0.00071972		0		
151	7.0065e-47	15.6	4.8113	Inf
0.0007023		0		
152	3.5032e-47	15.7	4.8113	Inf
0.0006854		0		
153	1.7516e-47	15.8	4.8113	Inf
0.00066901		0		
154	8.7581e-48	15.9	4.8113	Inf
0.00065311		0		
155	4.3791e-48	16	4.8113	Inf
0.00063768		0		
156	2.1895e-48	16.1	4.8113	Inf
0.0006227		0		
157	1.0948e-48	16.2	4.8113	Inf
0.00060816		0		
158	5.4738e-49	16.3	4.8113	Inf
0.00059404		0		
159	2.7369e-49	16.4	4.8113	Inf
0.00058033		0		
160	1.3685e-49	16.5	4.8113	Inf
0.00056701		0		

161	6.8423e-50	16.6	4.8113	Inf
0.00055407		0		
162	3.4211e-50	16.7	4.8113	Inf
0.0005415		0		
163	1.7106e-50	16.8	4.8113	Inf
0.00052928		0		
164	8.5528e-51	16.9	4.8113	Inf
0.00051741		0		
165	4.2764e-51	17	4.8113	Inf
0.00050586		0		
166	2.1382e-51	17.1	4.8113	Inf
0.00049464		0		
167	1.0691e-51	17.2	4.8113	Inf
0.00048373		0		
168	5.3455e-52	17.3	4.8113	Inf
0.00047311		0		
169	2.6728e-52	17.4	4.8113	Inf
0.00046279		0		
170	1.3364e-52	17.5	4.8113	Inf
0.00045274		0		
171	6.6819e-53	17.6	4.8113	Inf
0.00044297		0		
172	3.341e-53	17.7	4.8113	Inf
0.00043346		0		
173	1.6705e-53	17.8	4.8113	Inf
0.0004242		0		
174	8.3524e-54	17.9	4.8113	Inf
0.00041519		0		
175	4.1762e-54	18	4.8113	Inf
0.00040642		0		
176	2.0881e-54	18.1	4.8113	Inf
0.00039787		0		
177	1.044e-54	18.2	4.8113	Inf
0.00038956		0		
178	5.2202e-55	18.3	4.8113	Inf
0.00038145		0		
179	2.6101e-55	18.4	4.8113	Inf
0.00037356		0		
180	1.3051e-55	18.5	4.8113	Inf
0.00036587		0		
181	6.5253e-56	18.6	4.8113	Inf
0.00035838		0		
182	3.2627e-56	18.7	4.8113	Inf
0.00035107		0		
183	1.6313e-56	18.8	4.8113	Inf
0.00034396		0		
184	8.1566e-57	18.9	4.8113	Inf
0.00033702		0		
185	4.0783e-57	19	4.8113	Inf
0.00033025		0		
186	2.0392e-57	19.1	4.8113	Inf
0.00032366		0		
187	1.0196e-57	19.2	4.8113	Inf
0.00031723		0		
188	5.0979e-58	19.3	4.8113	Inf
0.00031096		0		
189	2.5489e-58	19.4	4.8113	Inf
0.00030484		0		

190	1.2745e-58	19.5	4.8113	Inf
0.00029887		0		
191	6.3724e-59	19.6	4.8113	Inf
0.00029305		0		
192	3.1862e-59	19.7	4.8113	Inf
0.00028737		0		
193	1.5931e-59	19.8	4.8113	Inf
0.00028182		0		
194	7.9655e-60	19.9	4.8113	Inf
0.00027641		0		
195	3.9827e-60	20	4.8113	Inf
0.00027113		0		
196	1.9914e-60	20.1	4.8113	Inf
0.00026597		0		
197	9.9568e-61	20.2	4.8113	Inf
0.00026094		0		
198	4.9784e-61	20.3	4.8113	Inf
0.00025602		0		
199	2.4892e-61	20.4	4.8113	Inf
0.00025122		0		
200	1.2446e-61	20.5	4.8113	Inf
0.00024653		0		
201	6.223e-62	20.6	4.8113	Inf
0.00024195		0		
202	3.1115e-62	20.7	4.8113	Inf
0.00023748		0		
203	1.5558e-62	20.8	4.8113	Inf
0.00023311		0		
204	7.7788e-63	20.9	4.8113	Inf
0.00022884		0		
205	3.8894e-63	21	4.8113	Inf
0.00022466		0		
206	1.9447e-63	21.1	4.8113	Inf
0.00022058		0		
207	9.7235e-64	21.2	4.8113	Inf
0.0002166		0		
208	4.8617e-64	21.3	4.8113	Inf
0.0002127		0		
209	2.4309e-64	21.4	4.8113	Inf
0.00020889		0		
210	1.2154e-64	21.5	4.8113	Inf
0.00020516		0		
211	6.0772e-65	21.6	4.8113	Inf
0.00020152		0		
212	3.0386e-65	21.7	4.8113	Inf
0.00019796		0		
213	1.5193e-65	21.8	4.8113	Inf
0.00019448		0		
214	7.5965e-66	21.9	4.8113	Inf
0.00019107		0		
215	3.7982e-66	22	4.8113	Inf
0.00018774		0		
216	1.8991e-66	22.1	4.8113	Inf
0.00018448		0		
217	9.4956e-67	22.2	4.8113	Inf
0.00018129		0		
218	4.7478e-67	22.3	4.8113	Inf
0.00017817		0		

219	2.3739e-67	22.4	4.8113	Inf
0.00017511		0		
220	1.1869e-67	22.5	4.8113	Inf
0.00017212		0		
221	5.9347e-68	22.6	4.8113	Inf
0.0001692		0		
222	2.9674e-68	22.7	4.8113	Inf
0.00016633		0		
223	1.4837e-68	22.8	4.8113	Inf
0.00016353		0		
224	7.4184e-69	22.9	4.8113	Inf
0.00016079		0		
225	3.7092e-69	23	4.8113	Inf
0.0001581		0		
226	1.8546e-69	23.1	4.8113	Inf
0.00015547		0		
227	9.273e-70	23.2	4.8113	Inf
0.00015289		0		
228	4.6365e-70	23.3	4.8113	Inf
0.00015037		0		
229	2.3183e-70	23.4	4.8113	Inf
0.00014789		0		
230	1.1591e-70	23.5	4.8113	Inf
0.00014547		0		
231	5.7956e-71	23.6	4.8113	Inf
0.0001431		0		
232	2.8978e-71	23.7	4.8113	Inf
0.00014078		0		
233	1.4489e-71	23.8	4.8113	Inf
0.0001385		0		
234	7.2445e-72	23.9	4.8113	Inf
0.00013627		0		
235	3.6223e-72	24	4.8113	Inf
0.00013408		0		
236	1.8111e-72	24.1	4.8113	Inf
0.00013194		0		
237	9.0557e-73	24.2	4.8113	Inf
0.00012984		0		
238	4.5278e-73	24.3	4.8113	Inf
0.00012778		0		
239	2.2639e-73	24.4	4.8113	Inf
0.00012577		0		
240	1.132e-73	24.5	4.8113	Inf
0.00012379		0		
241	5.6598e-74	24.6	4.8113	Inf
0.00012185		0		
242	2.8299e-74	24.7	4.8113	Inf
0.00011995		0		
243	1.4149e-74	24.8	4.8113	Inf
0.00011808		0		
244	7.0747e-75	24.9	4.8113	Inf
0.00011625		0		
245	3.5374e-75	25	4.8113	Inf
0.00011446		0		
246	1.7687e-75	25.1	4.8113	Inf
0.0001127		0		
247	8.8434e-76	25.2	4.8113	Inf
0.00011098		0		

248	4.4217e-76	25.3	4.8113	Inf	
0.00010929					0
249	2.2109e-76	25.4	4.8113	Inf	
0.00010763					0
250	1.1054e-76	25.5	4.8113	Inf	
0.000106					0
251	5.5271e-77	25.6	4.8113	Inf	
0.0001044					0
252	2.7636e-77	25.7	4.8113	Inf	
0.00010283					0
253	1.3818e-77	25.8	4.8113	Inf	
0.00010129					0
254	6.9089e-78	25.9	4.8113	Inf	9.9783e-05
					0
255	3.4545e-78	26	4.8113	Inf	9.8301e-05
					0
256	1.7272e-78	26.1	4.8113	Inf	9.6847e-05
					0
257	8.6362e-79	26.2	4.8113	Inf	9.5419e-05
					0
258	4.3181e-79	26.3	4.8113	Inf	9.4017e-05
					0
259	2.159e-79	26.4	4.8113	Inf	9.2642e-05
					0
260	1.0795e-79	26.5	4.8113	Inf	9.1291e-05
					0
261	5.3976e-80	26.6	4.8113	Inf	8.9965e-05
					0
262	2.6988e-80	26.7	4.8113	Inf	8.8662e-05
					0
263	1.3494e-80	26.8	4.8113	Inf	8.7384e-05
					0
264	6.747e-81	26.9	4.8113	Inf	8.6128e-05
					0
265	3.3735e-81	27	4.8113	Inf	8.4895e-05
					0
266	1.6868e-81	27.1	4.8113	Inf	8.3683e-05
					0
267	8.4338e-82	27.2	4.8113	Inf	8.2494e-05
					0
268	4.2169e-82	27.3	4.8113	Inf	8.1325e-05
					0
269	2.1084e-82	27.4	4.8113	Inf	8.0177e-05
					0
270	1.0542e-82	27.5	4.8113	Inf	7.9049e-05
					0
271	5.2711e-83	27.6	4.8113	Inf	7.7941e-05
					0
272	2.6355e-83	27.7	4.8113	Inf	7.6852e-05
					0
273	1.3178e-83	27.8	4.8113	Inf	7.5782e-05
					0
274	6.5889e-84	27.9	4.8113	Inf	7.4731e-05
					0
275	3.2944e-84	28	4.8113	Inf	7.3698e-05
					0
276	1.6472e-84	28.1	4.8113	Inf	7.2683e-05
					0

277	8.2361e-85	28.2	4.8113	Inf	7.1685e-05
278	4.118e-85	28.3	4.8113	Inf	7.0704e-05
279	2.059e-85	28.4	4.8113	Inf	6.974e-05
280	1.0295e-85	28.5	4.8113	Inf	6.8792e-05
281	5.1476e-86	28.6	4.8113	Inf	6.7861e-05
282	2.5738e-86	28.7	4.8113	Inf	6.6945e-05
283	1.2869e-86	28.8	4.8113	Inf	6.6044e-05
284	6.4344e-87	28.9	4.8113	Inf	6.5159e-05
285	3.2172e-87	29	4.8113	Inf	6.4288e-05
286	1.6086e-87	29.1	4.8113	Inf	6.3432e-05
287	8.0431e-88	29.2	4.8113	Inf	6.259e-05
288	4.0215e-88	29.3	4.8113	Inf	6.1762e-05
289	2.0108e-88	29.4	4.8113	Inf	6.0947e-05
290	1.0054e-88	29.5	4.8113	Inf	6.0146e-05
291	5.0269e-89	29.6	4.8113	Inf	5.9358e-05
292	2.5135e-89	29.7	4.8113	Inf	5.8583e-05
293	1.2567e-89	29.8	4.8113	Inf	5.7821e-05
294	6.2836e-90	29.9	4.8113	Inf	5.7071e-05
295	3.1418e-90	30	4.8113	Inf	5.6333e-05
296	1.5709e-90	30.1	4.8113	Inf	5.5607e-05
297	7.8545e-91	30.2	4.8113	Inf	5.4893e-05
298	3.9273e-91	30.3	4.8113	Inf	5.419e-05
299	1.9636e-91	30.4	4.8113	Inf	5.3498e-05
300	9.8182e-92	30.5	4.8113	Inf	5.2817e-05
301	4.9091e-92	30.6	4.8113	Inf	5.2147e-05
302	2.4545e-92	30.7	4.8113	Inf	5.1488e-05
303	1.2273e-92	30.8	4.8113	Inf	5.0839e-05
304	6.1364e-93	30.9	4.8113	Inf	5.02e-05
305	3.0682e-93	31	4.8113	Inf	4.9571e-05

306	1.5341e-93	31.1	4.8113	Inf	4.8952e-05
307	7.6705e-94	31.2	4.8113	Inf	4.8343e-05
308	3.8352e-94	31.3	4.8113	Inf	4.7743e-05
309	1.9176e-94	31.4	4.8113	Inf	4.7153e-05
310	9.5881e-95	31.5	4.8113	Inf	4.6571e-05
311	4.794e-95	31.6	4.8113	Inf	4.5999e-05
312	2.397e-95	31.7	4.8113	Inf	4.5435e-05
313	1.1985e-95	31.8	4.8113	Inf	4.488e-05
314	5.9925e-96	31.9	4.8113	Inf	4.4333e-05
315	2.9963e-96	32	4.8113	Inf	4.3795e-05
316	1.4981e-96	32.1	4.8113	Inf	4.3264e-05
317	7.4907e-97	32.2	4.8113	Inf	4.2742e-05
318	3.7453e-97	32.3	4.8113	Inf	4.2228e-05
319	1.8727e-97	32.4	4.8113	Inf	4.1721e-05
320	9.3634e-98	32.5	4.8113	Inf	4.1222e-05
321	4.6817e-98	32.6	4.8113	Inf	4.073e-05
322	2.3408e-98	32.7	4.8113	Inf	4.0246e-05
323	1.1704e-98	32.8	4.8113	Inf	3.9769e-05
324	5.8521e-99	32.9	4.8113	Inf	3.9298e-05
325	2.926e-99	33	4.8113	Inf	3.8835e-05
326	1.463e-99	33.1	4.8113	Inf	3.8379e-05
327	7.3151e-100	33.2	4.8113	Inf	3.7929e-05
328	3.6576e-100	33.3	4.8113	Inf	3.7486e-05
329	1.8288e-100	33.4	4.8113	Inf	3.7049e-05
330	9.1439e-101	33.5	4.8113	Inf	3.6619e-05
331	4.5719e-101	33.6	4.8113	Inf	3.6195e-05
332	2.286e-101	33.7	4.8113	Inf	3.5777e-05
333	1.143e-101	33.8	4.8113	Inf	3.5365e-05
334	5.7149e-102	33.9	4.8113	Inf	3.4959e-05

335	2.8575e-102	34	4.8113	Inf	3.4559e-05	0
336	1.4287e-102	34.1	4.8113	Inf	3.4164e-05	0
337	7.1437e-103	34.2	4.8113	Inf	3.3775e-05	0
338	3.5718e-103	34.3	4.8113	Inf	3.3392e-05	0
339	1.7859e-103	34.4	4.8113	Inf	3.3014e-05	0
340	8.9296e-104	34.5	4.8113	Inf	3.2641e-05	0
341	4.4648e-104	34.6	4.8113	Inf	3.2274e-05	0
342	2.2324e-104	34.7	4.8113	Inf	3.1911e-05	0
343	1.1162e-104	34.8	4.8113	Inf	3.1554e-05	0
344	5.581e-105	34.9	4.8113	Inf	3.1202e-05	0
345	2.7905e-105	35	4.8113	Inf	3.0855e-05	0
346	1.3952e-105	35.1	4.8113	Inf	3.0512e-05	0
347	6.9762e-106	35.2	4.8113	Inf	3.0174e-05	0
348	3.4881e-106	35.3	4.8113	Inf	2.9841e-05	0
349	1.7441e-106	35.4	4.8113	Inf	2.9513e-05	0
350	8.7203e-107	35.5	4.8113	Inf	2.9189e-05	0
351	4.3602e-107	35.6	4.8113	Inf	2.8869e-05	0
352	2.1801e-107	35.7	4.8113	Inf	2.8554e-05	0
353	1.09e-107	35.8	4.8113	Inf	2.8243e-05	0
354	5.4502e-108	35.9	4.8113	Inf	2.7937e-05	0
355	2.7251e-108	36	4.8113	Inf	2.7634e-05	0
356	1.3625e-108	36.1	4.8113	Inf	2.7336e-05	0
357	6.8127e-109	36.2	NaN	NaN	2.7041e-05	NaN
358	-35.3	42053	NaN	NaN	NaN	0

Diferenciacion hacia atras
[Warning: Unable to solve symbolically. Returning a numeric solution using
vpasolve.]
[> In <a href="matlab:matlab.internal.language.introspective.errorDocCallback('sym/solve', 'C:\Program Files\Polyspace\R2020a\toolbox\symbolic\symbolic\@sym\solve.m', 304)"

i	hi	f(hi)	Ea	Er	Rt	Derivada
1	0.1	0.6	1.2742	36.025	21.803	3.537
2	0.05	0.7	0.44366	10.158	15.129	4.3676
3	0.025	0.8	0.1342	2.8693	10.934	4.6771
4	0.0125	0.9	0.037201	0.77923	8.1528	4.7741
5	0.00625	1	0.0098162	0.20444	6.2314	4.8014
6	0.003125	1.1	0.0025228	0.052463	4.8605	4.8087
7	0.0015625	1.2	0.00063958	0.013295	3.8564	4.8106
8	0.00078125	1.3	0.00016102	0.0033469	3.1045	4.8111
9	0.00039063	1.4	4.0398e-05	0.00083966	2.5309	4.8112
10	0.00019531	1.5	1.0117e-05	0.00021028	2.0862	4.8112
11	9.7656e-05	1.6	2.5316e-06	5.2618e-05	1.7367	4.8112
12	4.8828e-05	1.7	6.3317e-07	1.316e-05	1.4584	4.8113

13	2.4414e-05	1.8	1.5833e-07	3.2908e-06	1.2344	4.8113
14	1.2207e-05	1.9	3.9586e-08	8.2278e-07	1.0523	4.8113
15	6.1035e-06	2	4.0524	534.05	0.90297	0.75881
16	3.0518e-06	2.1	-37.607	-88.657	0.77946	42.418
17	1.5259e-06	2.2	-414.97	-98.854	0.67656	419.78
18	7.6294e-07	2.3	2282.3	-100.21	0.59023	-2277.5
19	3.8147e-07	2.4	26558	-100.02	0.51736	-26553
20	1.9073e-07	2.5	-1.4607e+05	-99.997	0.45547	1.4607e+05
21	9.5367e-08	2.6	-1.6997e+06	-100	0.40262	1.6997e+06
22	4.7684e-08	2.7	9.3485e+06	-100	0.35727	-9.3485e+06
23	2.3842e-08	2.8	1.0878e+08	-100	0.31817	-1.0878e+08
24	1.1921e-08	2.9	-5.983e+08	-100	0.2843	5.983e+08
25	5.9605e-09	3	-6.962e+09	-100	0.25485	6.962e+09
26	2.9802e-09	3.1	3.8291e+10	-100	0.22913	-3.8291e+10
27	1.4901e-09	3.2	4.4557e+11	-100	0.20659	-4.4557e+11
28	7.4506e-10	3.3	-2.4506e+12	-100	0.18676	2.4506e+12
29	3.7253e-10	3.4	-2.8517e+13	-100	0.16927	2.8517e+13
30	1.8626e-10	3.5	1.5684e+14	-100	0.15378	-1.5684e+14
31	9.3132e-11	3.6	1.8251e+15	-100	0.14004	-1.8251e+15
32	4.6566e-11	3.7	-1.0038e+16	-100	0.1278	1.0038e+16
33	2.3283e-11	3.8	-1.168e+17	-100	0.11687	1.168e+17
34	1.1642e-11	3.9	6.4242e+17	-100	0.10709	-6.4242e+17
35	5.8208e-12	4	7.4754e+18	-100	0.098317	-7.4754e+18
36	2.9104e-12	4.1	-4.1115e+19	-100	0.090425	4.1115e+19
37	1.4552e-12	4.2	-4.7843e+20	-100	0.083312	4.7843e+20
38	7.276e-13	4.3	2.6314e+21	-100	0.076886	-2.6314e+21
39	3.638e-13	4.4	3.0619e+22	-100	0.07107	-3.0619e+22
40	1.819e-13	4.5	-1.6841e+23	-100	0.065794	1.6841e+23
41	9.0949e-14	4.6	-1.9596e+24	-100	0.061001	1.9596e+24

42	4.5475e-14	4.7	1.0778e+25	-100	0.056636	-1.0778e+25
43	2.2737e-14	4.8	1.2542e+26	-100	0.052657	-1.2542e+26
44	1.1369e-14	4.9	-6.8979e+26	-100	0.049021	6.8979e+26
45	5.6843e-15	5	-9.2909e+29	-100	0.045694	9.2909e+29
46	2.8422e-15	5.1	-2.4682e+30	-100	0.042646	2.4682e+30
47	1.4211e-15	5.2	4.8113	Inf	0.039847	0
48	7.1054e-16	5.3	4.8113	Inf	0.037275	0
49	3.5527e-16	5.4	4.8113	Inf	0.034908	0
50	1.7764e-16	5.5	4.8113	Inf	0.032726	0
51	8.8818e-17	5.6	4.8113	Inf	0.030712	0
52	4.4409e-17	5.7	4.8113	Inf	0.028851	0
53	2.2204e-17	5.8	4.8113	Inf	0.027129	0
54	1.1102e-17	5.9	4.8113	Inf	0.025533	0
55	5.5511e-18	6	4.8113	Inf	0.024054	0
56	2.7756e-18	6.1	4.8113	Inf	0.02268	0
57	1.3878e-18	6.2	4.8113	Inf	0.021403	0
58	6.9389e-19	6.3	4.8113	Inf	0.020215	0
59	3.4694e-19	6.4	4.8113	Inf	0.019108	0
60	1.7347e-19	6.5	4.8113	Inf	0.018076	0
61	8.6736e-20	6.6	4.8113	Inf	0.017112	0
62	4.3368e-20	6.7	4.8113	Inf	0.016213	0
63	2.1684e-20	6.8	4.8113	Inf	0.015371	0
64	1.0842e-20	6.9	4.8113	Inf	0.014584	0
65	5.421e-21	7	4.8113	Inf	0.013846	0
66	2.7105e-21	7.1	4.8113	Inf	0.013155	0
67	1.3553e-21	7.2	4.8113	Inf	0.012506	0
68	6.7763e-22	7.3	4.8113	Inf	0.011897	0
69	3.3881e-22	7.4	4.8113	Inf	0.011324	0
70	1.6941e-22	7.5	4.8113	Inf	0.010785	0

71	8.4703e-23	7.6	4.8113	Inf
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72	4.2352e-23	7.7	4.8113	Inf
0.0098011		0		
73	2.1176e-23	7.8	4.8113	Inf
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74	1.0588e-23	7.9	4.8113	Inf
0.0089267		0		
75	5.294e-24	8	4.8113	Inf
0.0085261		0		
76	2.647e-24	8.1	4.8113	Inf
0.0081477		0		
77	1.3235e-24	8.2	4.8113	Inf
0.0077901		0		
78	6.6174e-25	8.3	4.8113	Inf
0.0074519		0		
79	3.3087e-25	8.4	4.8113	Inf
0.0071319		0		
80	1.6544e-25	8.5	4.8113	Inf
0.0068289		0		
81	8.2718e-26	8.6	4.8113	Inf
0.0065418		0		
82	4.1359e-26	8.7	4.8113	Inf
0.0062697		0		
83	2.068e-26	8.8	4.8113	Inf
0.0060116		0		
84	1.034e-26	8.9	4.8113	Inf
0.0057666		0		
85	5.1699e-27	9	4.8113	Inf
0.005534		0		
86	2.5849e-27	9.1	4.8113	Inf
0.005313		0		
87	1.2925e-27	9.2	4.8113	Inf
0.0051029		0		
88	6.4623e-28	9.3	4.8113	Inf
0.0049032		0		
89	3.2312e-28	9.4	4.8113	Inf
0.0047131		0		
90	1.6156e-28	9.5	4.8113	Inf
0.0045321		0		
91	8.0779e-29	9.6	4.8113	Inf
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92	4.039e-29	9.7	4.8113	Inf
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93	2.0195e-29	9.8	4.8113	Inf
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94	1.0097e-29	9.9	4.8113	Inf
0.0038896		0		
95	5.0487e-30	10	4.8113	Inf
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96	2.5244e-30	10.1	4.8113	Inf
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97	1.2622e-30	10.2	4.8113	Inf
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98	6.3109e-31	10.3	4.8113	Inf
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99	3.1554e-31	10.4	4.8113	Inf
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104	9.8608e-33	10.9	4.8113	Inf
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105	4.9304e-33	11	4.8113	Inf
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106	2.4652e-33	11.1	4.8113	Inf
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107	1.2326e-33	11.2	4.8113	Inf
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108	6.163e-34	11.3	4.8113	Inf
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109	3.0815e-34	11.4	4.8113	Inf
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110	1.5407e-34	11.5	4.8113	Inf
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111	7.7037e-35	11.6	4.8113	Inf
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112	3.8519e-35	11.7	4.8113	Inf
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113	1.9259e-35	11.8	4.8113	Inf
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114	9.6296e-36	11.9	4.8113	Inf
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115	4.8148e-36	12	4.8113	Inf
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116	2.4074e-36	12.1	4.8113	Inf
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117	1.2037e-36	12.2	4.8113	Inf
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118	6.0185e-37	12.3	4.8113	Inf
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119	3.0093e-37	12.4	4.8113	Inf
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120	1.5046e-37	12.5	4.8113	Inf
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121	7.5232e-38	12.6	4.8113	Inf
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122	3.7616e-38	12.7	4.8113	Inf
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123	1.8808e-38	12.8	4.8113	Inf
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124	9.404e-39	12.9	4.8113	Inf
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125	4.702e-39	13	4.8113	Inf
0.0014024	0			
126	2.351e-39	13.1	4.8113	Inf
0.0013624	0			
127	1.1755e-39	13.2	4.8113	Inf
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128	5.8775e-40	13.3	4.8113	Inf
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129	2.9387e-40	13.4	4.8113	Inf	0.0012507	0
130	1.4694e-40	13.5	4.8113	Inf	0.001216	0
131	7.3468e-41	13.6	4.8113	Inf	0.0011825	0
132	3.6734e-41	13.7	4.8113	Inf	0.0011502	0
133	1.8367e-41	13.8	4.8113	Inf	0.0011189	0
134	9.1835e-42	13.9	4.8113	Inf	0.0010887	0
135	4.5918e-42	14	4.8113	Inf	0.0010595	0
136	2.2959e-42	14.1	4.8113	Inf	0.0010313	0
137	1.1479e-42	14.2	4.8113	Inf	0.0010041	0
138	5.7397e-43	14.3	4.8113	Inf	0.00097769	0
139	2.8699e-43	14.4	4.8113	Inf	0.00095218	0
140	1.4349e-43	14.5	4.8113	Inf	0.00092749	0
141	7.1746e-44	14.6	4.8113	Inf	0.00090359	0
142	3.5873e-44	14.7	4.8113	Inf	0.00088047	0
143	1.7937e-44	14.8	4.8113	Inf	0.00085807	0
144	8.9683e-45	14.9	4.8113	Inf	0.00083639	0
145	4.4842e-45	15	4.8113	Inf	0.00081538	0
146	2.2421e-45	15.1	4.8113	Inf	0.00079503	0
147	1.121e-45	15.2	4.8113	Inf	0.00077531	0
148	5.6052e-46	15.3	4.8113	Inf	0.0007562	0
149	2.8026e-46	15.4	4.8113	Inf	0.00073768	0
150	1.4013e-46	15.5	4.8113	Inf	0.00071972	0
151	7.0065e-47	15.6	4.8113	Inf	0.0007023	0
152	3.5032e-47	15.7	4.8113	Inf	0.0006854	0
153	1.7516e-47	15.8	4.8113	Inf	0.00066901	0
154	8.7581e-48	15.9	4.8113	Inf	0.00065311	0
155	4.3791e-48	16	4.8113	Inf	0.00063768	0
156	2.1895e-48	16.1	4.8113	Inf	0.0006227	0
157	1.0948e-48	16.2	4.8113	Inf	0.00060816	0

158	5.4738e-49	16.3	4.8113	Inf
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159	2.7369e-49	16.4	4.8113	Inf
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160	1.3685e-49	16.5	4.8113	Inf
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161	6.8423e-50	16.6	4.8113	Inf
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162	3.4211e-50	16.7	4.8113	Inf
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163	1.7106e-50	16.8	4.8113	Inf
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164	8.5528e-51	16.9	4.8113	Inf
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165	4.2764e-51	17	4.8113	Inf
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167	1.0691e-51	17.2	4.8113	Inf
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168	5.3455e-52	17.3	4.8113	Inf
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169	2.6728e-52	17.4	4.8113	Inf
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171	6.6819e-53	17.6	4.8113	Inf
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172	3.341e-53	17.7	4.8113	Inf
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173	1.6705e-53	17.8	4.8113	Inf
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174	8.3524e-54	17.9	4.8113	Inf
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175	4.1762e-54	18	4.8113	Inf
0.00040642		0		
176	2.0881e-54	18.1	4.8113	Inf
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177	1.044e-54	18.2	4.8113	Inf
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178	5.2202e-55	18.3	4.8113	Inf
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179	2.6101e-55	18.4	4.8113	Inf
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182	3.2627e-56	18.7	4.8113	Inf
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183	1.6313e-56	18.8	4.8113	Inf
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184	8.1566e-57	18.9	4.8113	Inf
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185	4.0783e-57	19	4.8113	Inf
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186	2.0392e-57	19.1	4.8113	Inf
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187	1.0196e-57	19.2	4.8113	Inf
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188	5.0979e-58	19.3	4.8113	Inf
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189	2.5489e-58	19.4	4.8113	Inf
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190	1.2745e-58	19.5	4.8113	Inf
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191	6.3724e-59	19.6	4.8113	Inf
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193	1.5931e-59	19.8	4.8113	Inf
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194	7.9655e-60	19.9	4.8113	Inf
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195	3.9827e-60	20	4.8113	Inf
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196	1.9914e-60	20.1	4.8113	Inf
0.00026597		0		
197	9.9568e-61	20.2	4.8113	Inf
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198	4.9784e-61	20.3	4.8113	Inf
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199	2.4892e-61	20.4	4.8113	Inf
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200	1.2446e-61	20.5	4.8113	Inf
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0.00024195		0		
202	3.1115e-62	20.7	4.8113	Inf
0.00023748		0		
203	1.5558e-62	20.8	4.8113	Inf
0.00023311		0		
204	7.7788e-63	20.9	4.8113	Inf
0.00022884		0		
205	3.8894e-63	21	4.8113	Inf
0.00022466		0		
206	1.9447e-63	21.1	4.8113	Inf
0.00022058		0		
207	9.7235e-64	21.2	4.8113	Inf
0.0002166		0		
208	4.8617e-64	21.3	4.8113	Inf
0.0002127		0		
209	2.4309e-64	21.4	4.8113	Inf
0.00020889		0		
210	1.2154e-64	21.5	4.8113	Inf
0.00020516		0		
211	6.0772e-65	21.6	4.8113	Inf
0.00020152		0		
212	3.0386e-65	21.7	4.8113	Inf
0.00019796		0		
213	1.5193e-65	21.8	4.8113	Inf
0.00019448		0		
214	7.5965e-66	21.9	4.8113	Inf
0.00019107		0		
215	3.7982e-66	22	4.8113	Inf
0.00018774		0		

216	1.8991e-66	22.1	4.8113	Inf
0.00018448		0		
217	9.4956e-67	22.2	4.8113	Inf
0.00018129		0		
218	4.7478e-67	22.3	4.8113	Inf
0.00017817		0		
219	2.3739e-67	22.4	4.8113	Inf
0.00017511		0		
220	1.1869e-67	22.5	4.8113	Inf
0.00017212		0		
221	5.9347e-68	22.6	4.8113	Inf
0.0001692		0		
222	2.9674e-68	22.7	4.8113	Inf
0.00016633		0		
223	1.4837e-68	22.8	4.8113	Inf
0.00016353		0		
224	7.4184e-69	22.9	4.8113	Inf
0.00016079		0		
225	3.7092e-69	23	4.8113	Inf
0.0001581		0		
226	1.8546e-69	23.1	4.8113	Inf
0.00015547		0		
227	9.273e-70	23.2	4.8113	Inf
0.00015289		0		
228	4.6365e-70	23.3	4.8113	Inf
0.00015037		0		
229	2.3183e-70	23.4	4.8113	Inf
0.00014789		0		
230	1.1591e-70	23.5	4.8113	Inf
0.00014547		0		
231	5.7956e-71	23.6	4.8113	Inf
0.0001431		0		
232	2.8978e-71	23.7	4.8113	Inf
0.00014078		0		
233	1.4489e-71	23.8	4.8113	Inf
0.0001385		0		
234	7.2445e-72	23.9	4.8113	Inf
0.00013627		0		
235	3.6223e-72	24	4.8113	Inf
0.00013408		0		
236	1.8111e-72	24.1	4.8113	Inf
0.00013194		0		
237	9.0557e-73	24.2	4.8113	Inf
0.00012984		0		
238	4.5278e-73	24.3	4.8113	Inf
0.00012778		0		
239	2.2639e-73	24.4	4.8113	Inf
0.00012577		0		
240	1.132e-73	24.5	4.8113	Inf
0.00012379		0		
241	5.6598e-74	24.6	4.8113	Inf
0.00012185		0		
242	2.8299e-74	24.7	4.8113	Inf
0.00011995		0		
243	1.4149e-74	24.8	4.8113	Inf
0.00011808		0		
244	7.0747e-75	24.9	4.8113	Inf
0.00011625		0		

245	3.5374e-75	25	4.8113	Inf	0.00011446	0
246	1.7687e-75	25.1	4.8113	Inf	0.0001127	0
247	8.8434e-76	25.2	4.8113	Inf	0.00011098	0
248	4.4217e-76	25.3	4.8113	Inf	0.00010929	0
249	2.2109e-76	25.4	4.8113	Inf	0.00010763	0
250	1.1054e-76	25.5	4.8113	Inf	0.000106	0
251	5.5271e-77	25.6	4.8113	Inf	0.0001044	0
252	2.7636e-77	25.7	4.8113	Inf	0.00010283	0
253	1.3818e-77	25.8	4.8113	Inf	0.00010129	0
254	6.9089e-78	25.9	4.8113	Inf	9.9783e-05	0
255	3.4545e-78	26	4.8113	Inf	9.8301e-05	0
256	1.7272e-78	26.1	4.8113	Inf	9.6847e-05	0
257	8.6362e-79	26.2	4.8113	Inf	9.5419e-05	0
258	4.3181e-79	26.3	4.8113	Inf	9.4017e-05	0
259	2.159e-79	26.4	4.8113	Inf	9.2642e-05	0
260	1.0795e-79	26.5	4.8113	Inf	9.1291e-05	0
261	5.3976e-80	26.6	4.8113	Inf	8.9965e-05	0
262	2.6988e-80	26.7	4.8113	Inf	8.8662e-05	0
263	1.3494e-80	26.8	4.8113	Inf	8.7384e-05	0
264	6.747e-81	26.9	4.8113	Inf	8.6128e-05	0
265	3.3735e-81	27	4.8113	Inf	8.4895e-05	0
266	1.6868e-81	27.1	4.8113	Inf	8.3683e-05	0
267	8.4338e-82	27.2	4.8113	Inf	8.2494e-05	0
268	4.2169e-82	27.3	4.8113	Inf	8.1325e-05	0
269	2.1084e-82	27.4	4.8113	Inf	8.0177e-05	0
270	1.0542e-82	27.5	4.8113	Inf	7.9049e-05	0
271	5.2711e-83	27.6	4.8113	Inf	7.7941e-05	0
272	2.6355e-83	27.7	4.8113	Inf	7.6852e-05	0
273	1.3178e-83	27.8	4.8113	Inf	7.5782e-05	0

274	6.5889e-84	27.9	4.8113	Inf	7.4731e-05
	0				
275	3.2944e-84	28	4.8113	Inf	7.3698e-05
	0				
276	1.6472e-84	28.1	4.8113	Inf	7.2683e-05
	0				
277	8.2361e-85	28.2	4.8113	Inf	7.1685e-05
	0				
278	4.118e-85	28.3	4.8113	Inf	7.0704e-05
	0				
279	2.059e-85	28.4	4.8113	Inf	6.974e-05
	0				
280	1.0295e-85	28.5	4.8113	Inf	6.8792e-05
	0				
281	5.1476e-86	28.6	4.8113	Inf	6.7861e-05
	0				
282	2.5738e-86	28.7	4.8113	Inf	6.6945e-05
	0				
283	1.2869e-86	28.8	4.8113	Inf	6.6044e-05
	0				
284	6.4344e-87	28.9	4.8113	Inf	6.5159e-05
	0				
285	3.2172e-87	29	4.8113	Inf	6.4288e-05
	0				
286	1.6086e-87	29.1	4.8113	Inf	6.3432e-05
	0				
287	8.0431e-88	29.2	4.8113	Inf	6.259e-05
	0				
288	4.0215e-88	29.3	4.8113	Inf	6.1762e-05
	0				
289	2.0108e-88	29.4	4.8113	Inf	6.0947e-05
	0				
290	1.0054e-88	29.5	4.8113	Inf	6.0146e-05
	0				
291	5.0269e-89	29.6	4.8113	Inf	5.9358e-05
	0				
292	2.5135e-89	29.7	4.8113	Inf	5.8583e-05
	0				
293	1.2567e-89	29.8	4.8113	Inf	5.7821e-05
	0				
294	6.2836e-90	29.9	4.8113	Inf	5.7071e-05
	0				
295	3.1418e-90	30	4.8113	Inf	5.6333e-05
	0				
296	1.5709e-90	30.1	4.8113	Inf	5.5607e-05
	0				
297	7.8545e-91	30.2	4.8113	Inf	5.4893e-05
	0				
298	3.9273e-91	30.3	4.8113	Inf	5.419e-05
	0				
299	1.9636e-91	30.4	4.8113	Inf	5.3498e-05
	0				
300	9.8182e-92	30.5	4.8113	Inf	5.2817e-05
	0				
301	4.9091e-92	30.6	4.8113	Inf	5.2147e-05
	0				
302	2.4545e-92	30.7	4.8113	Inf	5.1488e-05
	0				

303	1.2273e-92	30.8	4.8113	Inf	5.0839e-05
	0				
304	6.1364e-93	30.9	4.8113	Inf	5.02e-05
	0				
305	3.0682e-93	31	4.8113	Inf	4.9571e-05
	0				
306	1.5341e-93	31.1	4.8113	Inf	4.8952e-05
	0				
307	7.6705e-94	31.2	4.8113	Inf	4.8343e-05
	0				
308	3.8352e-94	31.3	4.8113	Inf	4.7743e-05
	0				
309	1.9176e-94	31.4	4.8113	Inf	4.7153e-05
	0				
310	9.5881e-95	31.5	4.8113	Inf	4.6571e-05
	0				
311	4.794e-95	31.6	4.8113	Inf	4.5999e-05
	0				
312	2.397e-95	31.7	4.8113	Inf	4.5435e-05
	0				
313	1.1985e-95	31.8	4.8113	Inf	4.488e-05
	0				
314	5.9925e-96	31.9	4.8113	Inf	4.4333e-05
	0				
315	2.9963e-96	32	4.8113	Inf	4.3795e-05
	0				
316	1.4981e-96	32.1	4.8113	Inf	4.3264e-05
	0				
317	7.4907e-97	32.2	4.8113	Inf	4.2742e-05
	0				
318	3.7453e-97	32.3	4.8113	Inf	4.2228e-05
	0				
319	1.8727e-97	32.4	4.8113	Inf	4.1721e-05
	0				
320	9.3634e-98	32.5	4.8113	Inf	4.1222e-05
	0				
321	4.6817e-98	32.6	4.8113	Inf	4.073e-05
	0				
322	2.3408e-98	32.7	4.8113	Inf	4.0246e-05
	0				
323	1.1704e-98	32.8	4.8113	Inf	3.9769e-05
	0				
324	5.8521e-99	32.9	4.8113	Inf	3.9298e-05
	0				
325	2.926e-99	33	4.8113	Inf	3.8835e-05
	0				
326	1.463e-99	33.1	4.8113	Inf	3.8379e-05
	0				
327	7.3151e-100	33.2	4.8113	Inf	3.7929e-05
	0				
328	3.6576e-100	33.3	4.8113	Inf	3.7486e-05
	0				
329	1.8288e-100	33.4	4.8113	Inf	3.7049e-05
	0				
330	9.1439e-101	33.5	4.8113	Inf	3.6619e-05
	0				
331	4.5719e-101	33.6	4.8113	Inf	3.6195e-05
	0				

332	2.286e-101	33.7	4.8113	Inf	3.5777e-05
	0				
333	1.143e-101	33.8	4.8113	Inf	3.5365e-05
	0				
334	5.7149e-102	33.9	4.8113	Inf	3.4959e-05
	0				
335	2.8575e-102	34	4.8113	Inf	3.4559e-05
	0				
336	1.4287e-102	34.1	4.8113	Inf	3.4164e-05
	0				
337	7.1437e-103	34.2	4.8113	Inf	3.3775e-05
	0				
338	3.5718e-103	34.3	4.8113	Inf	3.3392e-05
	0				
339	1.7859e-103	34.4	4.8113	Inf	3.3014e-05
	0				
340	8.9296e-104	34.5	4.8113	Inf	3.2641e-05
	0				
341	4.4648e-104	34.6	4.8113	Inf	3.2274e-05
	0				
342	2.2324e-104	34.7	4.8113	Inf	3.1911e-05
	0				
343	1.1162e-104	34.8	4.8113	Inf	3.1554e-05
	0				
344	5.581e-105	34.9	4.8113	Inf	3.1202e-05
	0				
345	2.7905e-105	35	4.8113	Inf	3.0855e-05
	0				
346	1.3952e-105	35.1	4.8113	Inf	3.0512e-05
	0				
347	6.9762e-106	35.2	4.8113	Inf	3.0174e-05
	0				
348	3.4881e-106	35.3	4.8113	Inf	2.9841e-05
	0				
349	1.7441e-106	35.4	4.8113	Inf	2.9513e-05
	0				
350	8.7203e-107	35.5	4.8113	Inf	2.9189e-05
	0				
351	4.3602e-107	35.6	4.8113	Inf	2.8869e-05
	0				
352	2.1801e-107	35.7	4.8113	Inf	2.8554e-05
	0				
353	1.09e-107	35.8	4.8113	Inf	2.8243e-05
	0				
354	5.4502e-108	35.9	4.8113	Inf	2.7937e-05
	0				
355	2.7251e-108	36	4.8113	Inf	2.7634e-05
	0				
356	1.3625e-108	36.1	4.8113	Inf	2.7336e-05
	0				
357	6.8127e-109	36.2	NaN	NaN	2.7041e-05
	NaN				

Diferenciacion centrada
[Warning: Unable to solve symbolically. Returning a numeric
solution using
<a href="matlab:web(fullfile(docroot,
'symbolic/vpasolve.html'))">vpasolve.]

```
[ > In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('sym
/solve', 'C:\Program
Files\Polyspace\R2020a\toolbox\symbolic\symbolic\@sym\solve.m', 304)"
style="font-weight:bold">sym/solve</a> (<a href="matlab:
opentoline('C:\Program
Files\Polyspace\R2020a\toolbox\symbolic\symbolic\@sym\solve.m',304,0)">li
ne 304</a>)
  In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('fdi
ff/pInflexion', 'C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m', 327)" style="font-
weight:bold">fdiff/pInflexion</a> (<a href="matlab:
opentoline('C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m',327,0)">line 327</a>)
  In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('fdi
ff/diff_centrada', 'C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m', 281)" style="font-
weight:bold">fdiff/diff_centrada</a> (<a href="matlab:
opentoline('C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m',281,0)">line 281</a>)
  In <a
href="matlab:matlab.internal.language.introspective.errorDocCallback('fdi
ff', 'C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m', 55)" style="font-
weight:bold">fdiff</a> (<a href="matlab:
opentoline('C:\Users\ismae\OneDrive\Documentos\MATLAB\Met.
Numericos\Grupal\Diferenciacion Numerica\fdiff.m',55,0)">line 55</a>)]
    <strong>i</strong>        <strong>hi</strong>
<strong>f(hi)</strong>        <strong>Ea</strong>
<strong>Er</strong>        <strong>Rt</strong>
<strong>Derivada</strong>
    <strong>_</strong>    <strong>_____</strong>
<strong>_____</strong>    <strong>_____</strong>
<strong>_____</strong>    <strong>_____</strong>
<strong>_____</strong>
```

i	hi	f(hi)	Ea	Er	Rt	Derivada
1	0.1	0.6	0.061083	1.2859	21.803	4.7502
2	0.05	0.7	0.0030988	0.064449	15.129	4.8082
3	0.025	0.8	0.00018491	0.0038434	10.934	4.8111
4	0.0125	0.9	1.1427e-05	0.00023751	8.1528	4.8112
5	0.00625	1	7.122e-07	1.4803e-05	6.2314	4.8113
6	0.003125	1.1	4.4482e-08	9.2453e-07	4.8605	4.8113
7	0.0015625	1.2	2.7796e-09	5.7773e-08	3.8564	4.8113

```
Elapsed time is 89.099731 seconds.

Ea =

   2.7796e-09
```
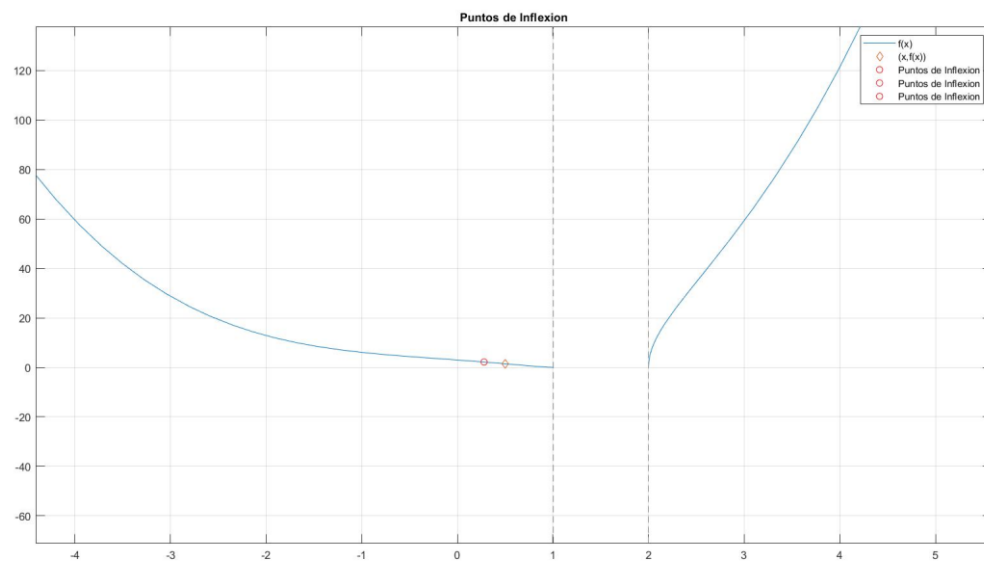
```
Er =

   5.7773e-08


Rt =

    3.8564


F =

    4.8113

disp('Aqui va la fig 3')
Aqui va la fig 3
```


Puntos de Inflexion

```
diary off
```