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18/EN 306/071

Mechanical

$$T_1 = 10^\circ\text{C} \quad T_2 = 20^\circ\text{C}$$

Time taken = 5 minutes = 300 secs

$$\Delta T = 20 - 10 = 10^\circ\text{C}$$

$$T = 24.9^\circ\text{C} \quad \Delta T_c = 24.9 - 10 \\ = 14.9^\circ\text{C}$$

$$15 \quad 10^\circ\text{C} \quad : \quad 300 \text{ secs}$$

$$14.9^\circ\text{C} \quad : \quad x$$

$$\therefore x = \frac{300 \times 14.9}{10}$$

$$x = 447 \text{ secs}$$

$$= 7 \text{ mins } 27 \text{ secs} \quad \approx 7.45 \text{ mins.}$$

```
1 - commandwindow
2 - clear
3 - clc
4 - close all
5 - format short g
6 - mdata=xlsread('onlinequizdata','fluiddata')
7 - E=mdata(1:2:250,1)
8 - Q=mdata(1:2:250,2)
9 - plot(E,Q)
10 - grid on
11 - grid minor
```


mdata =

0	200
1	279.96
2	276.13
3	313.86
4	345.02
5	327.9
6	407.35
7	469.14
8	463.74
9	506.59
10	514.78
11	487.14
12	560.95
13	604.28
14	602.73
15	651.47
16	640.54
17	608.37
18	674.74
19	699.58
20	705.7
21	759.54
22	733.7
23	702.37
24	759.04

24	759.04
25	765.95
26	781.97
27	838.93
28	802.72
29	776.79
30	821.5
31	811.8
32	838.48
33	895.72
34	853.85
35	836.94
36	867.76
37	843.63
38	880.35
39	934.56
40	891.73
41	886.32
42	902.03
43	866.42
44	911.36
45	959.17
46	919.79
47	927.16
48	927.43
49	883.93
50	934.33
51	972.62

I

52	940.58
53	960.76
54	946.24
55	898.89
56	951.35
57	977.58
58	955.98
59	987.83
60	960.17
61	913.17
62	963.96
63	976.42
64	967.39
65	1008.7
66	970.49
67	927.88
68	973.3
69	971.28
70	975.84
71	1023.6
72	978.14
73	943.55
74	980.22
75	964.09
76	982.1
77	1032.7
78	983.81
79	960.16
80	985.25

fx



80	952.53
81	956.54
82	986.74
83	1036.3
84	988
85	977.32
86	989.15
87	950.07
88	990.18
89	1034.8
90	991.11
91	994.33
92	991.96
93	945.82
94	992.72
95	1029
96	993.42
97	1010.3
98	994.04
99	944.58
100	994.61
101	1019.6
102	995.12
103	1024.5
104	995.59
105	946.78
106	996.01
107	1007.9
108	996.39

109	1035.8
110	996.73
111	952.51
112	997.04
113	994.81
114	997.32
115	1043.8
116	997.58
117	961.48
118	997.81
119	981.7
120	998.02
121	1047.8
122	998.21
123	973.14
124	998.38
125	969.69
126	998.53
127	1047.7
128	998.67
129	986.64
130	998.8
131	959.83
132	998.91
133	1043.5
134	999.02
135	1001
136	999.11
137	999.22

136	898.11
137	892.97
138	898.19
139	1035.7
140	898.27
141	1015.1
142	898.24
143	949.72
144	999.4
145	1025
146	999.46
147	1027.9
148	999.51
149	950.36
150	999.56
151	1012.1
152	999.6
153	1038.4
154	999.64
155	954.88
156	999.67
157	998.21
158	999.7
159	1045.7
160	999.73
161	962.94
162	999.76
163	984.4

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Command Window

164	999.78
165	1049.4
166	999.8
167	973.9
168	999.82
169	971.79
170	999.84
171	1049.1
172	999.85
173	986.91
174	999.87
175	961.41
176	999.88
177	1044.9
178	999.89
179	1000.9
180	999.9
181	954.07
182	999.91
183	1037
184	999.92
185	1014.9
186	999.93
187	950.38
188	999.93
189	1026.2
190	999.94
191	1027.6

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192	999.95
193	950.63
194	999.95
195	1013.3
196	999.96
197	1038.1
198	999.96
199	954.81
200	999.96
201	999.37
202	999.97
203	1045.6
204	999.97
205	962.57
206	999.97
207	985.45
208	999.98
209	1049.5
210	999.98
211	973.32
212	999.98
213	972.68
214	999.98
215	1049.4
216	999.98
217	986.18
218	999.99
219	962.09
220	999.99

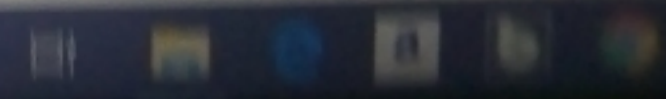
221	1045.3
222	999.99
223	1000.1
224	999.99
225	954.52
226	999.99
227	1037.7
228	999.99
229	1014.1
230	999.99
231	950.56
232	999.99
233	1027
234	999.99
235	1026.9
236	999.99
237	950.55
238	999.99
239	1014.2
240	1000
241	1037.6
242	1000
243	954.47
244	1000
245	1000.3
246	1000
247	1045.3
248	1000

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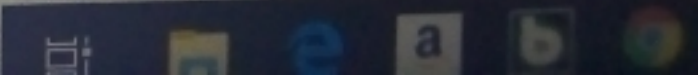
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How to search



Command Window

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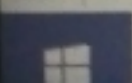


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fx



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Command Window

216
218
220
222
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232
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Q =

200
276.13
345.02
407.35
463.74
514.78
560.95
600.00

fx



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602.73
640.54
674.74
705.7
733.7
756.04
781.87
802.72
821.5
838.48
853.85
867.76
880.66
891.73
902.03
911.68
916.76
927.43
934.53
940.58
946.24
951.55
955.98
960.17
963.96
967.38
970.48
973.3
975.24



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Command Window

978.14
980.22
982.1
983.81
985.35
986.74
988
989.15
990.18
991.11
991.96
992.72
993.42
994.04
994.61
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996.01
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996.73
997.04
997.32
997.58
997.81
998.02
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998.53

f_x



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Command Window

998.67
998.8
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999.02
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f_x >> emma2



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