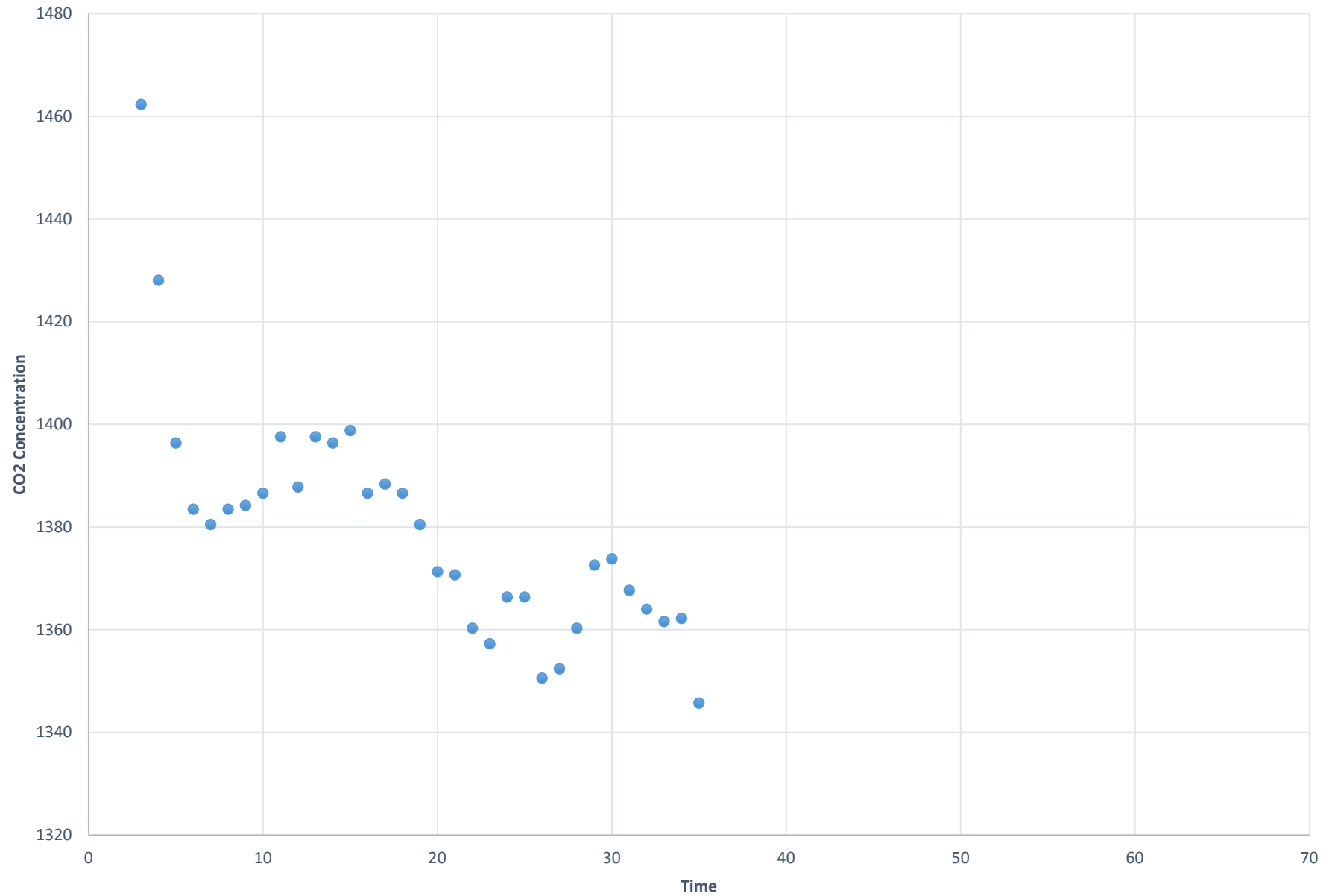


Plot Title: Sunset Dorms

#	Date Time, GMT-07:00	CO2, ppm (Host Connε Stopped (L End Of File (LGR S/N: 940890)
1	10/20/2016 14:45	869.4
2	10/20/2016 14:46	638
3	10/20/2016 14:47	456.7
4	10/20/2016 14:48	372.4
5	10/20/2016 14:49	363.9
6	10/20/2016 14:50	465.8
7	10/20/2016 14:51	368.1
8	10/20/2016 14:52	542.1
9	10/20/2016 14:53	870
10	10/20/2016 14:54	663
11	10/20/2016 14:55	697.2
12	10/20/2016 14:56	722.8
13	10/20/2016 14:57	763.7
14	10/20/2016 14:58	882.8
15	10/20/2016 14:59	981.1
16	10/20/2016 15:00	1023.2
17	10/20/2016 15:01	1077.5
18	10/20/2016 15:02	1087.9
19	10/20/2016 15:03	1142.2
20	10/20/2016 15:04	1247.9
21	10/20/2016 15:05	1260.1
22	10/20/2016 15:06	1286.3
23	10/20/2016 15:07	1316.2
24	10/20/2016 15:08	1398
25	10/20/2016 15:09	1482.3
26	10/20/2016 15:10	1448.1
27	10/20/2016 15:11	1416.4
28	10/20/2016 15:12	1403.5
29	10/20/2016 15:13	1400.5
30	10/20/2016 15:14	1403.5
31	10/20/2016 15:15	1404.2
32	10/20/2016 15:16	1406.6
33	10/20/2016 15:17	1417.6
34	10/20/2016 15:18	1407.8
35	10/20/2016 15:19	1417.6
36	10/20/2016 15:20	1416.4
37	10/20/2016 15:21	1418.8
38	10/20/2016 15:22	1406.6
39	10/20/2016 15:23	1408.4
40	10/20/2016 15:24	1406.6
41	10/20/2016 15:25	1400.5
42	10/20/2016 15:26	1391.3
43	10/20/2016 15:27	1390.7
44	10/20/2016 15:28	1380.3
45	10/20/2016 15:29	1377.3

46	10/20/2016 15:30	1386.4		
47	10/20/2016 15:31	1386.4		
48	10/20/2016 15:32	1370.6		
49	10/20/2016 15:33	1372.4		
50	10/20/2016 15:34	1380.3		
51	10/20/2016 15:35	1392.6		
52	10/20/2016 15:36	1393.8		
53	10/20/2016 15:37	1387.7		
54	10/20/2016 15:38	1384		
55	10/20/2016 15:39	1381.6		
56	10/20/2016 15:40	1382.2		
57	10/20/2016 15:41	1365.7		
58	10/20/2016 15:42	1368.7		
59	10/20/2016 15:43	1177.7		
60	10/20/2016 15:44	1067.8		
61	10/20/2016 15:45	778.4		
62	10/20/2016 15:46	750.3		
63	10/20/2016 15:47	736.9		
64	10/20/2016 15:48	801		
65	10/20/2016 15:49	783.9		
66	10/20/2016 15:50	1000		
67	10/20/2016 15:51	460.3		
68	10/20/2016 15:52	426.1		
69	10/20/2016 15:53	430.4		
70	10/20/2016 15:54	423.7		
71	10/20/2016 15:55	415.8		
72	10/20/2016 15:56	399.3		
73	10/20/2016 15:57	398.7		
74	10/20/2016 15:58	440.2		
75	10/20/2016 15:59	428		
76	10/20/2016 16:00	1127		
77	10/20/2016 16:01	582.4		
78	10/20/2016 16:02	550.1		
79	10/20/2016 16:03	508.5		
80	10/20/2016 16:04	514.7		
81	10/20/2016 16:05	460.3		
82	10/20/2016 16:06	471.9		
83	10/20/2016 16:06		Logged	
84	10/20/2016 16:06			Logged

CO2 Concentration Vs. Time



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Insert Parameters

Coutdoor (ppm) 420
 Assumed Outdoor(ppm) 400
 Correction Factor(ppm) -20
 Vol of room(ft^3) 1485
 Room capacity (ppl) 10

Plot Title: Sunset Dorms

Measurment	Date and time	Hobo CO2 Concentration	Actual CO2 Concentartion
1	10/20/2016 14:45	869.4	849.4
2	10/20/2016 14:46	638	618
3	10/20/2016 14:47	456.7	436.7
4	10/20/2016 14:48	372.4	352.4
5	10/20/2016 14:49	363.9	343.9
6	10/20/2016 14:50	465.8	445.8
7	10/20/2016 14:51	368.1	348.1
8	10/20/2016 14:52	542.1	522.1
9	10/20/2016 14:53	870	850
10	10/20/2016 14:54	663	643
11	10/20/2016 14:55	697.2	677.2
12	10/20/2016 14:56	722.8	702.8
13	10/20/2016 14:57	763.7	743.7
14	10/20/2016 14:58	882.8	862.8
15	10/20/2016 14:59	981.1	961.1
16	10/20/2016 15:00	1023.2	1003.2
17	10/20/2016 15:01	1077.5	1057.5
18	10/20/2016 15:02	1087.9	1067.9
19	10/20/2016 15:03	1142.2	1122.2
20	10/20/2016 15:04	1247.9	1227.9
21	10/20/2016 15:05	1260.1	1240.1
22	10/20/2016 15:06	1286.3	1266.3
23	10/20/2016 15:07	1316.2	1296.2
24	10/20/2016 15:08	1398	1378
25	10/20/2016 15:09	1482.3	1462.3
26	10/20/2016 15:10	1448.1	1428.1
27	10/20/2016 15:11	1416.4	1396.4
28	10/20/2016 15:12	1403.5	1383.5

29	10/20/2016 15:13	1400.5	1380.5
30	10/20/2016 15:14	1403.5	1383.5
31	10/20/2016 15:15	1404.2	1384.2
32	10/20/2016 15:16	1406.6	1386.6
33	10/20/2016 15:17	1417.6	1397.6
34	10/20/2016 15:18	1407.8	1387.8
35	10/20/2016 15:19	1417.6	1397.6
36	10/20/2016 15:20	1416.4	1396.4
37	10/20/2016 15:21	1418.8	1398.8
38	10/20/2016 15:22	1406.6	1386.6
39	10/20/2016 15:23	1408.4	1388.4
40	10/20/2016 15:24	1406.6	1386.6
41	10/20/2016 15:25	1400.5	1380.5
42	10/20/2016 15:26	1391.3	1371.3
43	10/20/2016 15:27	1390.7	1370.7
44	10/20/2016 15:28	1380.3	1360.3
45	10/20/2016 15:29	1377.3	1357.3
46	10/20/2016 15:30	1386.4	1366.4
47	10/20/2016 15:31	1386.4	1366.4
48	10/20/2016 15:32	1370.6	1350.6
49	10/20/2016 15:33	1372.4	1352.4
50	10/20/2016 15:34	1380.3	1360.3
51	10/20/2016 15:35	1392.6	1372.6
52	10/20/2016 15:36	1393.8	1373.8
53	10/20/2016 15:37	1387.7	1367.7
54	10/20/2016 15:38	1384	1364
55	10/20/2016 15:39	1381.6	1361.6
56	10/20/2016 15:40	1382.2	1362.2
57	10/20/2016 15:41	1365.7	1345.7
58	10/20/2016 15:42	1368.7	1348.7
59	10/20/2016 15:43	1177.7	1157.7
60	10/20/2016 15:44	1067.8	1047.8
61	10/20/2016 15:45	778.4	758.4
62	10/20/2016 15:46	750.3	730.3
63	10/20/2016 15:47	736.9	716.9
64	10/20/2016 15:48	801	781
65	10/20/2016 15:49	783.9	763.9
66	10/20/2016 15:50	1000	980
67	10/20/2016 15:51	460.3	440.3
68	10/20/2016 15:52	426.1	406.1

69	10/20/2016 15:53	430.4	410.4	
70	10/20/2016 15:54	423.7	403.7	
71	10/20/2016 15:55	415.8	395.8	
72	10/20/2016 15:56	399.3	379.3	
73	10/20/2016 15:57	398.7	378.7	
74	10/20/2016 15:58	440.2	420.2	
75	10/20/2016 15:59	428	408	
76	10/20/2016 16:00	1127	1107	
77	10/20/2016 16:01	582.4	562.4	
78	10/20/2016 16:02	550.1	530.1	
79	10/20/2016 16:03	508.5	488.5	
80	10/20/2016 16:04	514.7	494.7	
81	10/20/2016 16:05	460.3	440.3	
82	10/20/2016 16:06	471.9	451.9	
83	10/20/2016 16:06	Logged		
84	10/20/2016 16:06		Logged	Logged

Kathleen Madrid
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Insert Parameters	
Coutdoor (ppm)	420
Assumed Outdoor(ppm)	400
Correction Factor(ppm)	-20
Vol of room(ft^3)	1485
Room capacity (ppl)	10

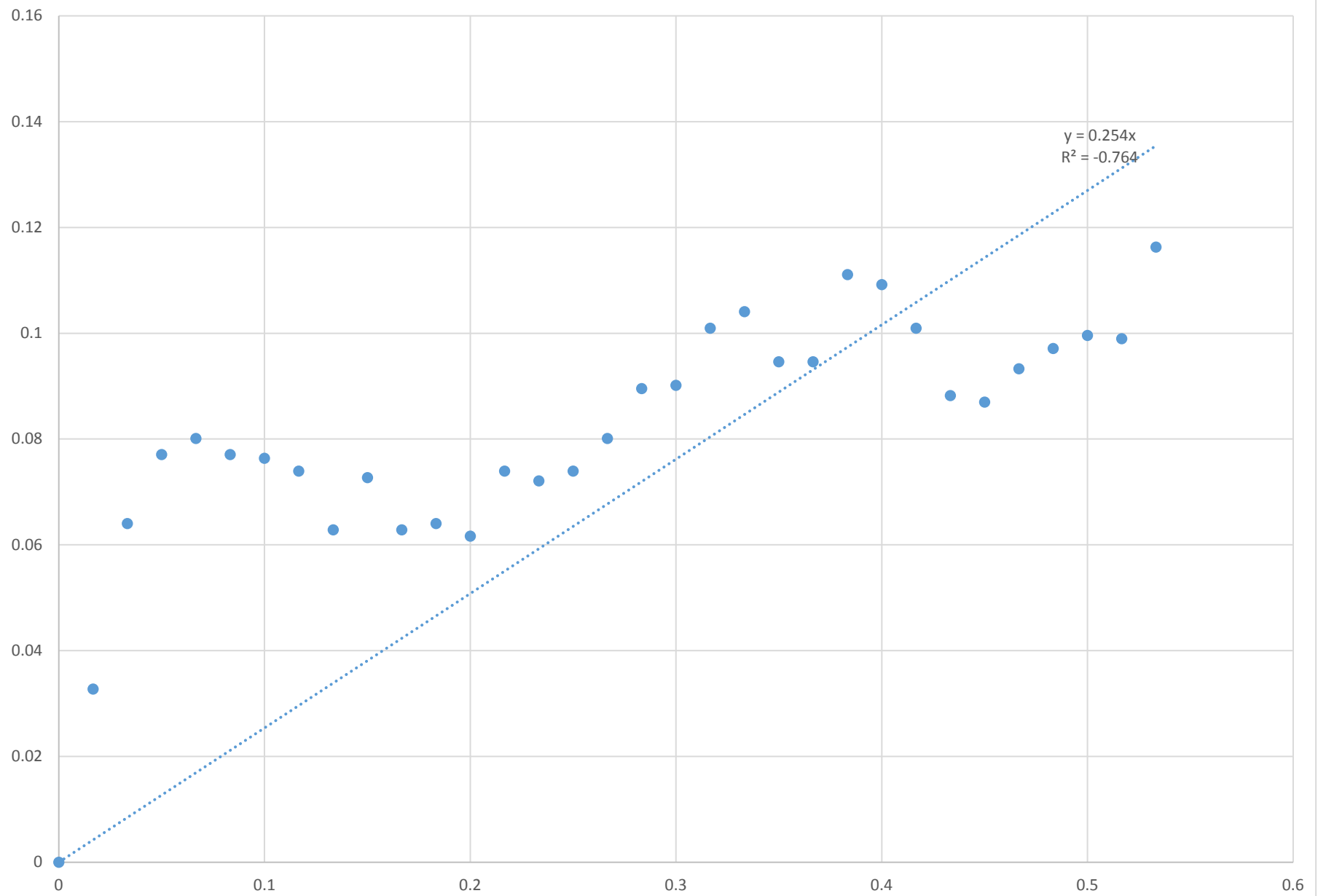
Calculations	
Air exchange rate [1/hr]	0.254
Time to Remove non- reactive chem	11.81102362
Ventilation Rate [ft3/min/person]	0.62865

Plot Title: Sunset Dorms

Measurment	Date and time	Hobo CO2 Concentration	Actual CO2 Concentartion	Time (hr)	Ln equation
0	10/20/2016 15:09	1482.3	1462.3	0	0
1	10/20/2016 15:10	1448.1	1428.1	0.016666667	0.03272393
2	10/20/2016 15:11	1416.4	1396.4	0.033333333	0.064042864
3	10/20/2016 15:12	1403.5	1383.5	0.05	0.07707401
4	10/20/2016 15:13	1400.5	1380.5	0.066666667	0.080129002
5	10/20/2016 15:14	1403.5	1383.5	0.083333333	0.07707401
6	10/20/2016 15:15	1404.2	1384.2	0.1	0.076362519
7	10/20/2016 15:16	1406.6	1386.6	0.116666667	0.073926959
8	10/20/2016 15:17	1417.6	1397.6	0.133333333	0.062839253
9	10/20/2016 15:18	1407.8	1387.8	0.15	0.0727114
10	10/20/2016 15:19	1417.6	1397.6	0.166666667	0.062839253
11	10/20/2016 15:20	1416.4	1396.4	0.183333333	0.064042864
12	10/20/2016 15:21	1418.8	1398.8	0.2	0.061637089
13	10/20/2016 15:22	1406.6	1386.6	0.216666667	0.073926959
14	10/20/2016 15:23	1408.4	1388.4	0.233333333	0.072104174
15	10/20/2016 15:24	1406.6	1386.6	0.25	0.073926959
16	10/20/2016 15:25	1400.5	1380.5	0.266666667	0.080129002
17	10/20/2016 15:26	1391.3	1371.3	0.283333333	0.089556267
18	10/20/2016 15:27	1390.7	1370.7	0.3	0.090174187
19	10/20/2016 15:28	1380.3	1360.3	0.316666667	0.100945912
20	10/20/2016 15:29	1377.3	1357.3	0.333333333	0.104074826
21	10/20/2016 15:30	1386.4	1366.4	0.35	0.094613821
22	10/20/2016 15:31	1386.4	1366.4	0.366666667	0.094613821
23	10/20/2016 15:32	1370.6	1350.6	0.383333333	0.111098284
24	10/20/2016 15:33	1372.4	1352.4	0.4	0.109206533
25	10/20/2016 15:34	1380.3	1360.3	0.416666667	0.100945912

26	10/20/2016 15:35	1392.6	1372.6	0.433333333	0.08821875
27	10/20/2016 15:36	1393.8	1373.8	0.45	0.086985704
28	10/20/2016 15:37	1387.7	1367.7	0.466666667	0.093269526
29	10/20/2016 15:38	1384	1364	0.483333333	0.097100353
30	10/20/2016 15:39	1381.6	1361.6	0.5	0.099593084
31	10/20/2016 15:40	1382.2	1362.2	0.516666667	0.098969319
32	10/20/2016 15:41	1365.7	1345.7	0.533333333	0.116266254

Chart Title



What is the air exchange rate (λ) of the room you tested? Be sure to include the units for the air exchange rate in your answer.	The air exchange rate of the room was 0.254/hr.
In general it takes $3/\lambda$ hours to remove a non-reactive chemical from indoor air. Based on this time, what recommendations would you make to the occupants of the room?	Once that time has been met, I would tell these occupants to keep their windows and doors open in order to have as much air flow as possible.
Compare your ventilation rate for a typical number of occupants to the ASHRAE recommended ventilation rate. Based on this comparison, are the occupants wasting energy heating and cooling the air or are the occupants being too cheap and not supplying enough air? Justify your answer.	Based upon this comparison, the occupants are being too cheap because the recommended rate is $15\text{ft}^3/\text{min}/\text{person}$, while my ventilation rate was 0.62865. If there is a huge gap with these two rates, the occupants can do many things to increase the rate, such as buying fans.
Given the ASHRAE standard ventilation standard, what is the maximum number of people you would recommend having in this room at one time? Use your model to determine this number.	The standard vent rate would be 15. With my equation, the number of occupants should definitely be less than 10.