



[Week 9: Regression and Simulation](#)

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Graded Assignment 1 - Pill Int.

Part 1

2/2 points (graded)

In its latest press release, Pill International announced that they are working on a new drug that would stunt the deterioration of brain cells in Alzheimer's patients. If successful, the drug could prolong the life of patients and allow them to retain their basic mobility.

The R&D team is currently testing the drug, which comes in the form of a digestible tablet, for its ability to be dissolved and absorbed in the bloodstream. Based on their latest experiments, they have learned that there is a relationship between the amount of time that the tablet's powder spends in the tray dryer and the amount of time it takes to get dissolved (Y). As a member of this research team, you have been asked to establish the relationship between the two variables and to predict potential dissolution times based on the time spent in the dryer.

Time spent in dryer (seconds)	Dissolution time (seconds)
	275.3
42	253.46
52	223.25
29	340.91
64	191.81
24	366.63
58	214.7
32	435.15
70	291.28
54	310.69
50	421.56

37	165.5
21	328.77
53	429.18
67	316.87
58	403.08
64	117.1
44	233.84
37	342.64
63	433.92
49	321.72
64	195.04
33	243.4
47	182.84
25	230.61
60	347.31
43	237.99
23	288.85
57	351.64
60	276.17
54	148.8
27	367.24
64	350.61
46	209.37
30	325.7
31	215.86

30	260.88
64	298.49
51	273.08
30	427.13
50	192.5
44	181.58
34	234.04
43	325.51
43	284.54
51	354.33
46	454.82
63	302.01
32	343.23
36	289.66
22	

Regress the time spent in the dryer against the dissolution time.

What is your intercept estimate for this model?
Round your answer to two decimal places.

130.4748

✓

130.4748

What is your parameter estimate for this model?
Round your answer to two decimal places.

3.5609

✓

3.5609

Submit

You have used 1 of 2 attempts

✓ Correct (2/2 points)

Part 2

2/2 points (graded)
If you want to set dryer time to 31 seconds, what would you expect the dissolution time to be (in seconds)?
Round your answer to one decimal place.

240.8633

✓

240.8633

Submit

You have used 1 of 2 attempts

✓ Correct (2/2 points)

Part 3

1/1 point (graded)
What is the p-value for your dryer time estimate?
Round your answer to three decimal places. If it is less than .001, you may enter "0".

0

✓

0

Submit

You have used 1 of 2 attempts

✓ Correct (1/1 point)