

University of California, Los Angeles
Department of Statistics

Statistics 13

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Survival function - example

The first column represents the lifetimes of a group of guinea pigs survived after they were infected with a certain dose of some virus. From “Mathematical Statistics and Data Analysis”, by John Rice, Duxbury Press, Second Edition, 1995.

days	seq	F _n (t)
43	1	1/72=0.01388889
45	2	2/72=0.02777778
53	3	3/72=0.04166667
56	4	4/72=0.05555556
56	5	5/72=0.06944444
57	6	6/72=0.08333333
58	7	7/72=0.09722222
66	8	8/72=0.11111111
67	9	9/72=0.12500000
73	10	10/72=0.13888889
74	11	11/72=0.15277778
79	12	12/72=0.16666667
80	13	13/72=0.18055556
80	14	14/72=0.19444444
81	15	15/72=0.20833333
81	16	16/72=0.22222222
81	17	17/72=0.23611111
82	18	18/72=0.25000000
83	19	19/72=0.26388889
83	20	20/72=0.27777778
84	21	21/72=0.29166667
88	22	22/72=0.30555556
89	23	23/72=0.31944444
91	24	24/72=0.33333333
91	25	25/72=0.34722222
92	26	26/72=0.36111111
92	27	27/72=0.37500000
97	28	28/72=0.38888889
99	29	29/72=0.40277778
99	30	30/72=0.41666667
100	31	31/72=0.43055556
100	32	32/72=0.44444444
101	33	33/72=0.45833333
102	34	34/72=0.47222222
102	35	35/72=0.48611111
102	36	36/72=0.50000000
103	37	37/72=0.51388889
104	38	38/72=0.52777778
107	39	39/72=0.54166667
108	40	40/72=0.55555556
109	41	41/72=0.56944444
113	42	42/72=0.58333333
114	43	43/72=0.59722222
118	44	44/72=0.61111111
121	45	45/72=0.62500000
123	46	46/72=0.63888889
126	47	47/72=0.65277778
128	48	48/72=0.66666667
137	49	49/72=0.68055556
138	50	50/72=0.69444444
139	51	51/72=0.70833333
144	52	52/72=0.72222222
145	53	53/72=0.73611111
147	54	54/72=0.75000000
156	55	55/72=0.76388889
162	56	56/72=0.77777778
174	57	57/72=0.79166667
178	58	58/72=0.80555556
179	59	59/72=0.81944444
184	60	60/72=0.83333333
191	61	61/72=0.84722222
198	62	62/72=0.86111111
211	63	63/72=0.87500000
214	64	64/72=0.88888889
243	65	65/72=0.90277778
249	66	66/72=0.91666667
329	67	67/72=0.93055556
380	68	68/72=0.94444444
403	69	69/72=0.95833333
511	70	70/72=0.97222222
522	71	71/72=0.98611111
598	72	72/72=1.00000000

After omitting the duplicates we get the final table below:

days	$F_n(t)$	$S_n(t)$
43	0.01388889	0.98611111
45	0.02777778	0.97222222
53	0.04166667	0.95833333
56	0.06944444	0.93055556
57	0.08333333	0.91666667
58	0.09722222	0.90277778
66	0.11111111	0.88888889
67	0.12500000	0.87500000
73	0.13888889	0.86111111
74	0.15277778	0.84722222
79	0.16666667	0.83333333
80	0.19444444	0.80555556
81	0.23611111	0.76388889
82	0.25000000	0.75000000
83	0.27777778	0.72222222
84	0.29166667	0.70833333
88	0.30555556	0.69444444
89	0.31944444	0.68055556
91	0.34722222	0.65277778
92	0.37500000	0.62500000
97	0.38888889	0.61111111
99	0.41666667	0.58333333
100	0.44444444	0.55555556
101	0.45833333	0.54166667
102	0.50000000	0.50000000
103	0.51388889	0.48611111
104	0.52777778	0.47222222
107	0.54166667	0.45833333
108	0.55555556	0.44444444
109	0.56944444	0.43055556
113	0.58333333	0.41666667
114	0.59722222	0.40277778
118	0.61111111	0.38888889
121	0.62500000	0.37500000
123	0.63888889	0.36111111
126	0.65277778	0.34722222
128	0.66666667	0.33333333
137	0.68055556	0.31944444
138	0.69444444	0.30555556
139	0.70833333	0.29166667
144	0.72222222	0.27777778
145	0.73611111	0.26388889
147	0.75000000	0.25000000
156	0.76388889	0.23611111
162	0.77777778	0.22222222
174	0.79166667	0.20833333
178	0.80555556	0.19444444
179	0.81944444	0.18055556
184	0.83333333	0.16666667
191	0.84722222	0.15277778
198	0.86111111	0.13888889
211	0.87500000	0.12500000
214	0.88888889	0.11111111
243	0.90277778	0.09722222
249	0.91666667	0.08333333
329	0.93055556	0.06944444
380	0.94444444	0.05555556
403	0.95833333	0.04166667
511	0.97222222	0.02777778
522	0.98611111	0.01388889
598	1.00000000	0.00000000

