

Sample Calculations - Gaussian Distributions. Copyright 1995, TRIUS, Inc.

Assuming that the rainfall at some location follows a normal (Gaussian) distribution with a mean of 60 inches per year, and a sigma of 15 inches, it calculates the probability of a certain number of inches of rainfall in the next year.

- Rainfall is Normal (Gaussian): $N(60 \text{ in}, 15 \text{ in})$
- What is Prob. of at least X inches next year?

Given Information: $\mu = 60$ $\sigma = 15$

At Least X-inches	Probability	
10	0.0001028186	More Detailed Prediction Below. Press Alt-B for Basic Graph Press Alt-D for Detailed Graph
20	0.0007597324	
30	0.0035993978	
40	0.010934005	
50	0.021296534	
60	0.026596152	
70	0.021296534	
80	0.010934005	
90	0.0035993978	
100	0.0007597324	
110	0.0001028186	
120	0.0000089220151	

A More Detailed Function for the distribution

At Least X-inches	Probability	
2	0.000015073923	
4	0.000025018935	
6	0.000040793462	
8	0.000065341864	
10	0.0001028186	
12	0.00015893921	

14	0.00024136242
16	0.00036007041
18	0.00052769677
20	0.0007597324
22	0.0010745239
24	0.0014929687
26	0.002037814
28	0.0027324837
30	0.0035993978
32	0.0046578051
34	0.0059212307
36	0.0073947223
38	0.0090721655
40	0.010934005
42	0.012945737
44	0.015057522
46	0.017205188
48	0.01931277
50	0.021296534
52	0.02307026
54	0.024551343
56	0.025667125
58	0.026360789
60	0.026596152
62	0.026360789
64	0.025667125
66	0.024551343
68	0.02307026
70	0.021296534
72	0.01931277
74	0.017205188
76	0.015057522
78	0.012945737
80	0.010934005
82	0.0090721655
84	0.0073947223
86	0.0059212307
88	0.0046578051
90	0.0035993978
92	0.0027324837

94	0.002037814
96	0.0014929687
98	0.0010745239
100	0.0007597324
102	0.00052769677
104	0.00036007041
106	0.00024136242
108	0.00015893921
110	0.0001028186
112	0.000065341864
114	0.000040793462
116	0.000025018935
118	0.000015073923
120	0.0000089220151
122	0.0000051877475
124	0.0000029632884
126	0.0000016628314

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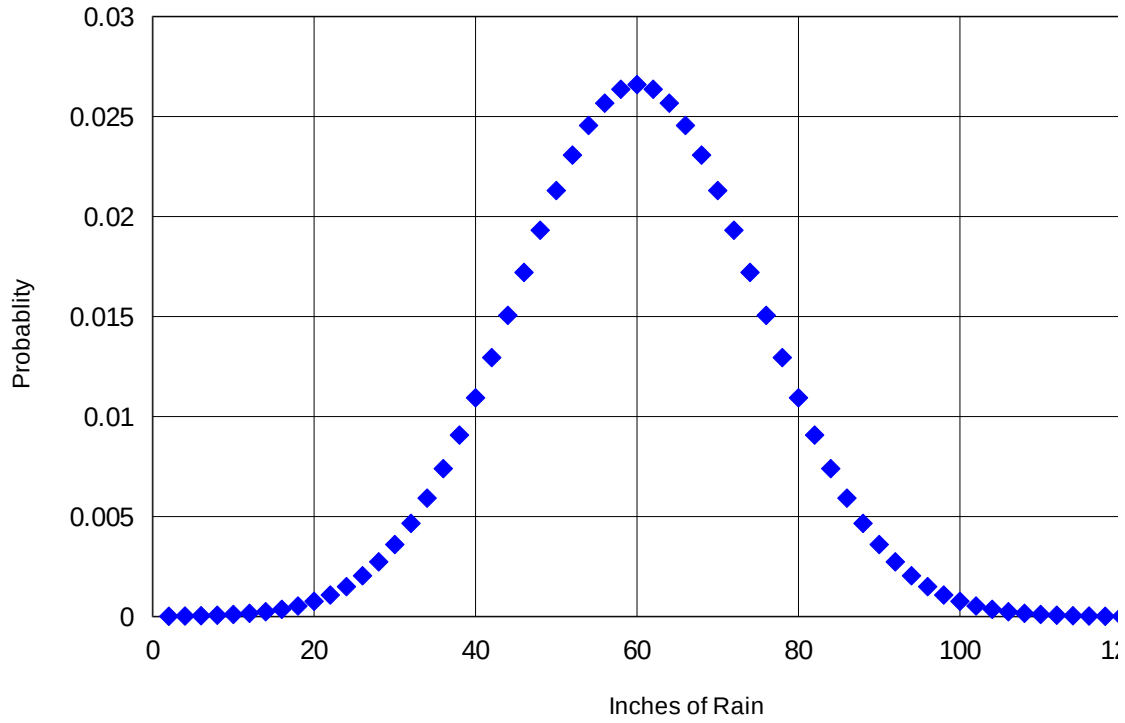
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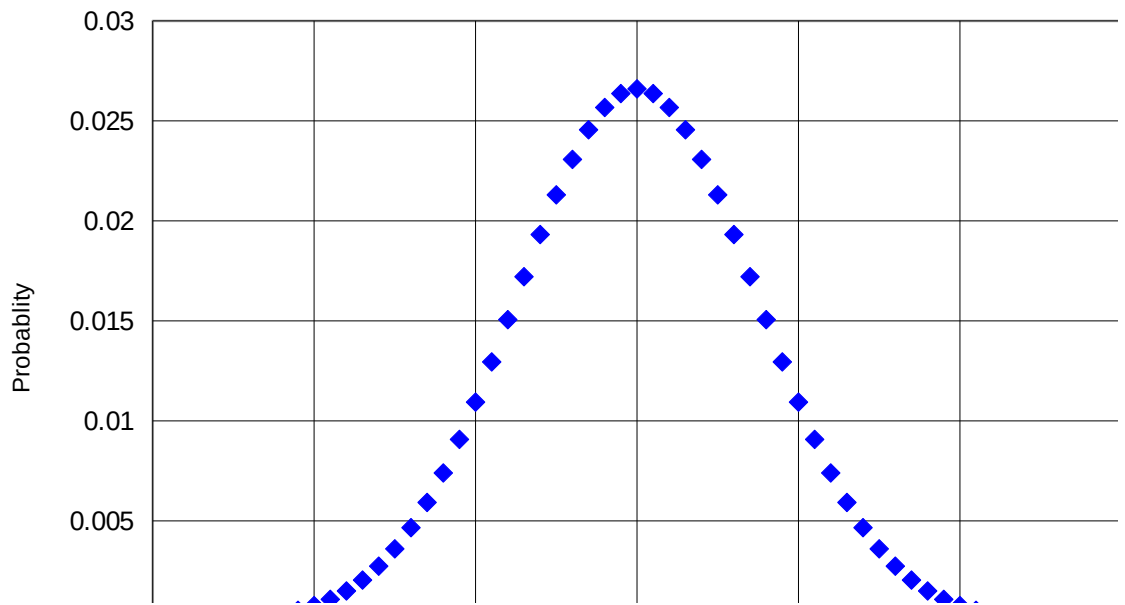
Gaussian Function

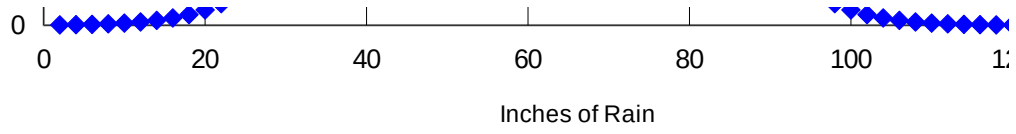
Detailed Rainfall Prediction



Gaussian Function

Detailed Rainfall Prediction





Gaussian Function

Rainfall Prediction (Basic)

