

Sheet1

Sample Calculations - Gaussian Distributions. Copyright 1997, 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

At Least
X-inches

Probability

10	#NAME?
20	#NAME?
30	#NAME?
40	#NAME?
50	#NAME?
60	#NAME?
70	#NAME?
80	#NAME?
90	#NAME?
100	#NAME?
110	#NAME?
120	#NAME?

A More Detailed Function for the distribution

At Least
X-inches

Probability

2	#NAME?
4	#NAME?
6	#NAME?
8	#NAME?
10	#NAME?
12	#NAME?
14	#NAME?
16	#NAME?
18	#NAME?
20	#NAME?
22	#NAME?
24	#NAME?
26	#NAME?
28	#NAME?
30	#NAME?

32	#NAME?
34	#NAME?
36	#NAME?
38	#NAME?
40	#NAME?
42	#NAME?
44	#NAME?
46	#NAME?
48	#NAME?
50	#NAME?
52	#NAME?
54	#NAME?
56	#NAME?
58	#NAME?
60	#NAME?
62	#NAME?
64	#NAME?
66	#NAME?
68	#NAME?
70	#NAME?
72	#NAME?
74	#NAME?
76	#NAME?
78	#NAME?
80	#NAME?
82	#NAME?
84	#NAME?
86	#NAME?
88	#NAME?
90	#NAME?
92	#NAME?
94	#NAME?
96	#NAME?
98	#NAME?
100	#NAME?
102	#NAME?
104	#NAME?
106	#NAME?
108	#NAME?
110	#NAME?
112	#NAME?
114	#NAME?
116	#NAME?
118	#NAME?
120	#NAME?
122	#NAME?
124	#NAME?
126	#NAME?

d=

15

More Detailed Prediction Below.

Press F3, and specify \B for Basic Graph

Press F3, and specify \D for Detailed Graph

```
{graphseries 0,xdata1}  
{graphseries 1,ydata1}  
{GRAPHHeading 0,"Gaussian Rainfall"}  
{GRAPHHeading 1,"(Approximate)"}  
{GRAPHHeading 2,"Inches of Rain"}  
{GRAPHHeading 3,"Probability"}  
{graphscale 1,"N,FS2"}  
{graphfont 0,"Arial,24,b"}  
{graphfont 1,"Arial,16,b"}  
{graphview 1,0}
```

```
{graphseries 0,xdata2}  
{graphseries 1,ydata2}  
{GRAPHHeading 0,"Gaussian Rainfall"}  
{GRAPHHeading 1,"(Detailed)"}  
{GRAPHHeading 2,"Inches of Rain"}  
{GRAPHHeading 3,"Probability"}  
{graphscale 1,"N,FS2"}  
{graphfont 0,"Arial,24,b"}  
{graphfont 1,"Arial,16,b"}  
{graphview 1,0}
```