

Sheet1

A sample of calculating probabilities of events assuming A Poisson Distribution for the observations. Fictitious scenario is for occurrences of rain. A number of variations are examined.

- Records show 4 storms per year for last 20 years
  - Assume Poisson distribution
  - What probability of NO storm next year?
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$x=0, v=4, t=1$

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x

0

1

2

3

4

0

1

2

3

4

0

1

2

3

4

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VARIABLE DEFINITIONS FROM GIVEN INFORMATION (Basic Scenario)  
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Number of Storms per year observed,      v =  
Number of Years interested in (next year),    t =  
Occurrences looking for (NO rain),      x =

	v	t	Result
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	4	1	#NAME?
	4	1	#NAME?
	4	1	#NAME?
	4	1	#NAME?
	4	1	#NAME?
	4	2	#NAME?
	4	2	#NAME?
	4	2	#NAME?
	4	2	#NAME?
	4	2	#NAME?
	4	3	#NAME?
	4	3	#NAME?
	4	3	#NAME?
	4	3	#NAME?
	4	3	#NAME?
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=====	==	==
		4
		1
		0

Explanation

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Prob of ZERO storms next year  
Prob of ONE storms next year  
Prob of TWO storms next year  
Prob of THREE storms next year  
Prob of FOUR storms next year

Prob of ZERO storms next 2 years  
Prob of ONE storms next 2 years  
Prob of TWO storms next 2 years  
Prob of THREE storms next 2 years  
Prob of FOUR storms next 2 year

Prob of ZERO storms next 3 years  
Prob of ONE storms next 3 years  
Prob of TWO storms next 3 years  
Prob of THREE storms next 3 years  
Prob of FOUR storms next 2 year

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