



GRANULARITY ANALYTICS

Date: 9/17/2015

Company: ACME Corporation

Description	Symbol	Value Measure
X ~ N(UX, SX)		
mean daily demand	UD	500 units
std dev daily dem	SD	55 units
mean lead time	UL	90 days
std dev lead time	SL	7.62 days
Demand	D	182,500 /year
Average LTD	UX	45,000 units
Std dev LTD	SX	3,846 units
Ordering cost	A	\$899.00 /order
Holding cost factor	W	30% /unit/year
Item value	v	\$275.00 /unit
Safety stock control	P1_	99%
Periods per year	DPY	365 days
Derived Input		
Holding cost	h	\$83 /unit

Description	Symbol	Value
Decision Variables		
Reorder point	s	53,946.12
Order quantity	Q	1,994.34
Equivalent order-fill service	[P ₂]	0.99
Cost Analysis		
Ordering cost	OC	\$82,266.55
Holding cost		
Cycle stock	CSC	\$82,266.54
Safety stock	SSC	\$738,054.56
Shortage cost	SC	NA
Total	ETAC	\$902,587.65
Working Calculations		
Cycle stock	CS	997.17
Safety stock	SS	8,946.12
Orders per year	OPY	91.51
Cycle length	CL	3.99
Prob X > s	Pxs	0.01
Standardized value of s [z]	z	2.33
Expected units short per cycle	ES	13.03