

	A	B	C	D	E
1	Calculating covariance and correlation between two random variables				
2					
3	Economic outcome	Probability	GM Return	Gold Return	
4	Depression	0.05	-20%	5%	
5	Recession	0.30	10%	20%	
6	Normal	0.50	30%	-12%	
7	Boom	0.15	50%	9%	
8					
9					
10			GM	Gold	
11	Means		0.245	0.016	=SUMPRODUCT
12	Variances		0.027475	0.020284	=SUMPRODUCT
13	Standard deviations		0.16575584	0.142421908	=SQRT(D12)
14					
15	Covariance	-0.00967	=SUMPRODUCT(C4:C7-C11,D4:D7-D11,B4:B7)		
16	Correlation	-0.40961969	=B15/(C13*D13)		