

Bayesian Network Inference Report

Table 1: Case 1: $P(B=\text{true}, J=\text{true} \mid A=\text{false})$

Num Samples	Prior Sampling	Rejection	LW
10	0.00000000	0.00000000	0.01000000
50	0.00000000	0.00000000	0.00000000
100	0.00000000	0.00000000	0.00000000
200	0.00000000	0.00000000	0.00000000
500	0.00000000	0.00000000	0.00000000
1000	0.00000000	0.00000000	0.00020014
10000	0.00005056	0.00005062	0.00004004
Exact	0.00005000	0.00005000	0.00005000

Table 2: Case 2: $P(B=\text{true}, M=\text{true} \mid J=\text{true}, E=\text{false})$

Num Samples	Prior Sampling	Rejection	LW
10	0.07500000	0.12500000	0.00000000
50	0.00000000	0.00000000	0.00000000
100	0.00000000	0.00000000	0.00000000
200	0.00000000	0.00000000	0.00000000
500	0.00000000	0.00000000	0.00000000
1000	0.00000000	0.00000000	0.00000000
10000	0.00016694	0.00016529	0.00063963
Exact	0.00011615	0.00011615	0.00011615

Table 3: Case 3: $P(B=\text{true}, E=\text{true} \mid M=\text{true}, J=\text{false})$

Num Samples	Prior Sampling	Rejection	LW
10	0.17500000	0.22500000	0.00000000
50	0.10000000	0.17500000	0.00000000
100	0.10000000	0.12500000	0.00000000
200	0.10000000	0.10000000	0.00000000
500	0.00000000	0.00000000	0.00000000
1000	0.00000000	0.00000000	0.00000000
10000	0.00000000	0.00000000	0.00000000
Exact	0.00001018	0.00001018	0.00001018