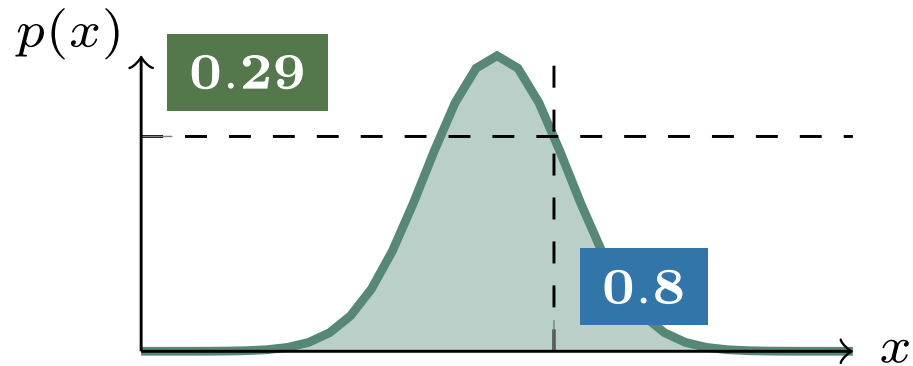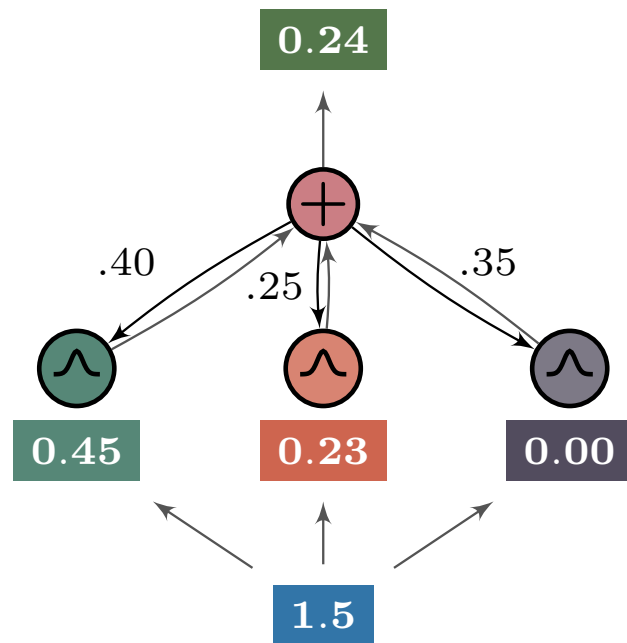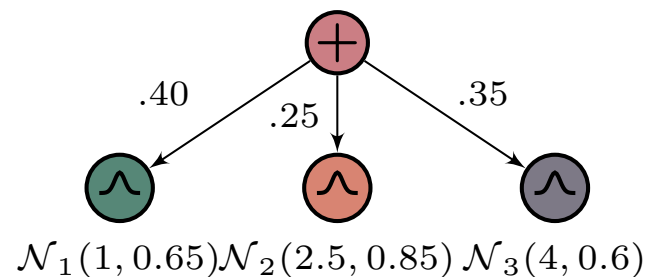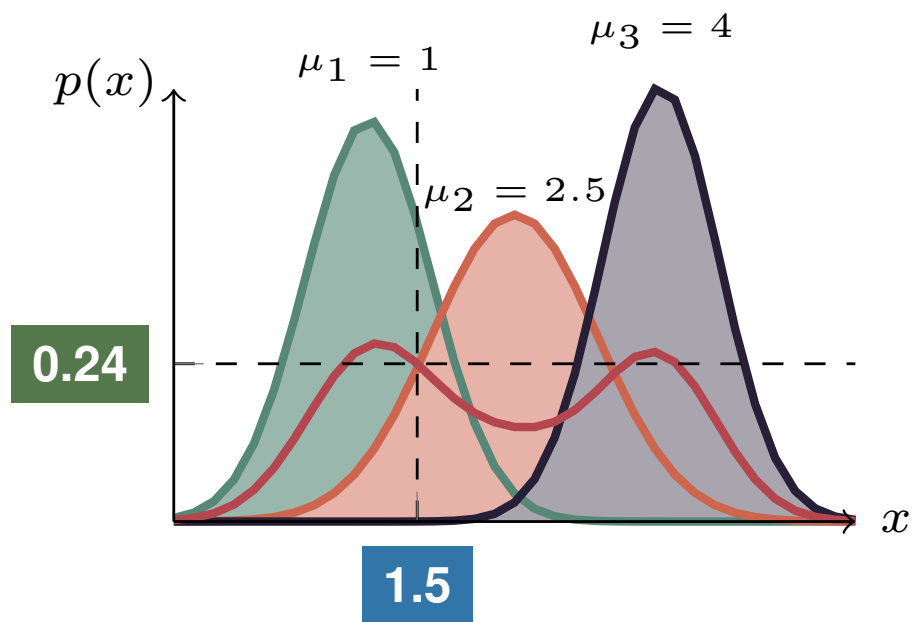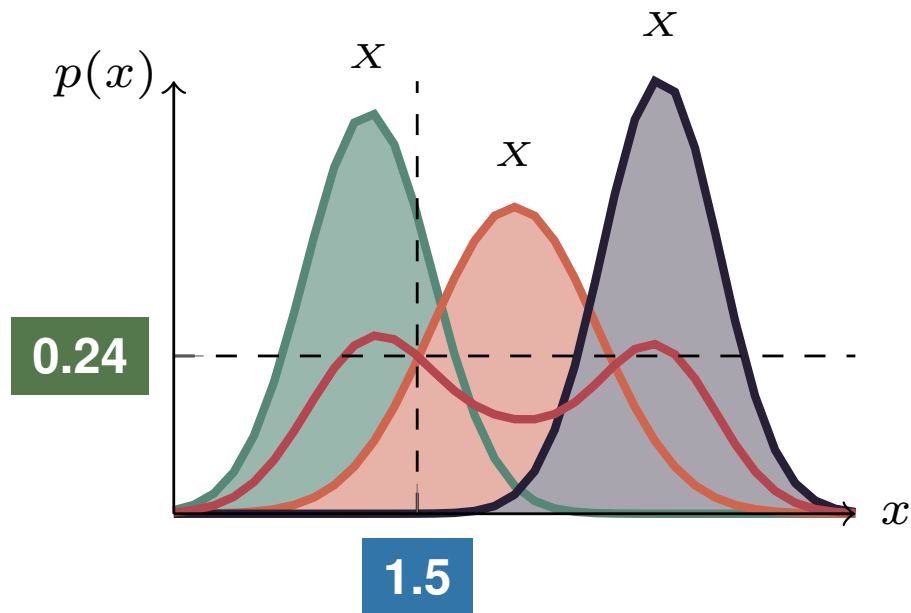# Scalable Learning of Probabilistic Circuits

Probabilistic Circuits
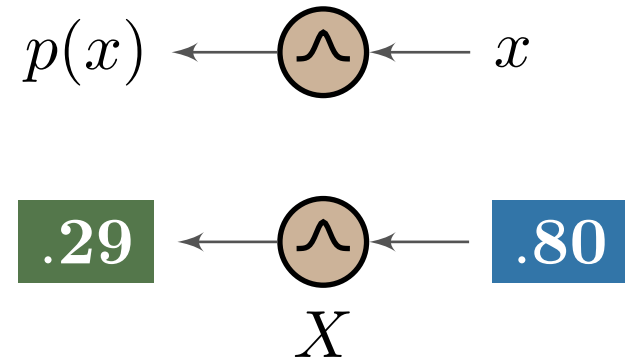
Probabilistic Circuits
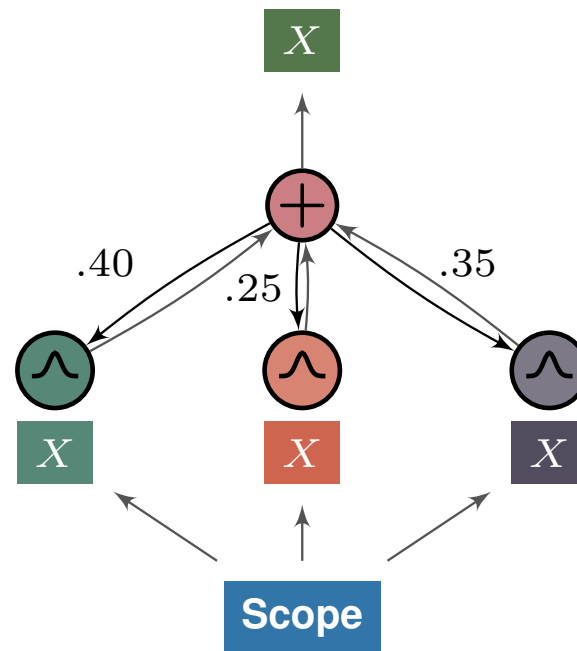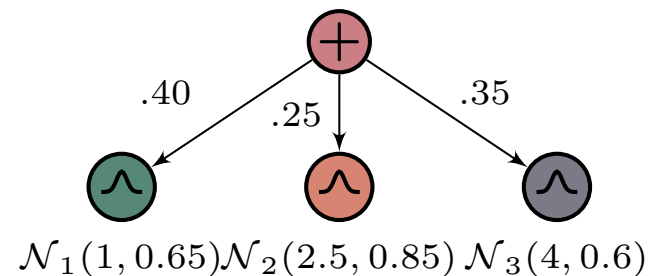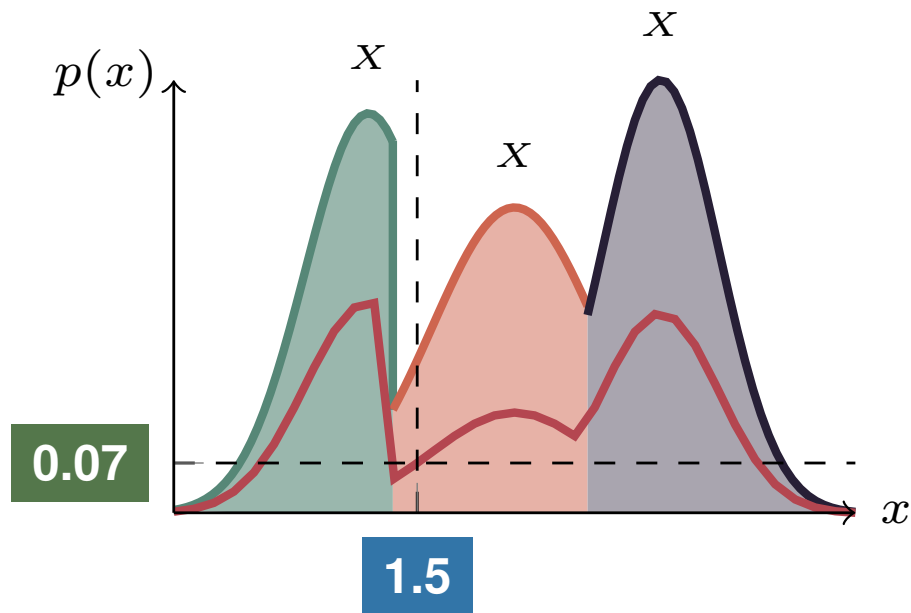
Probabilistic Circuits

Definition 1 (Smoothness).
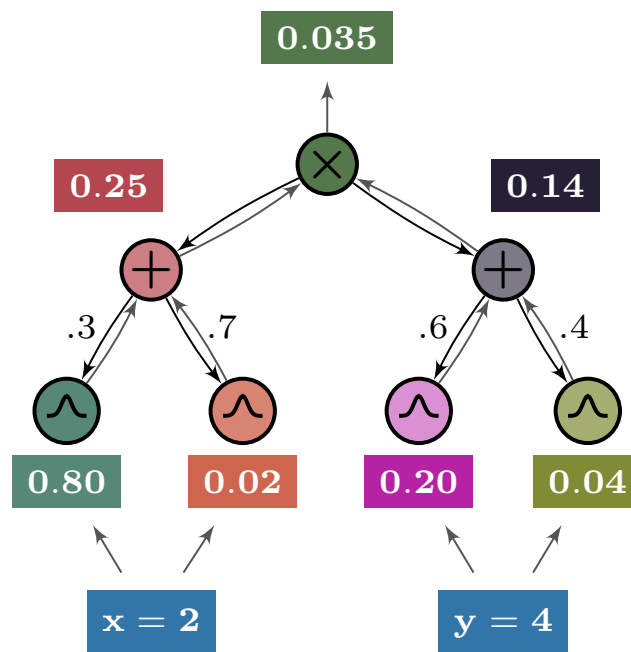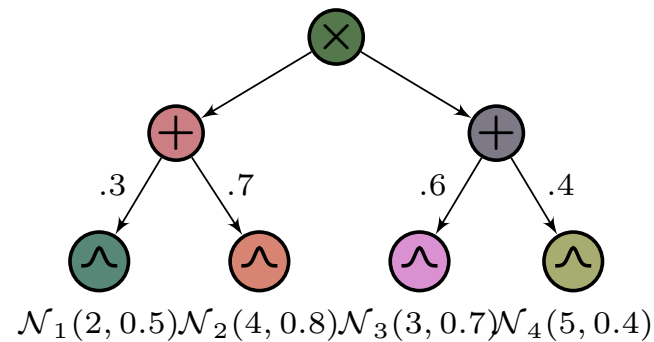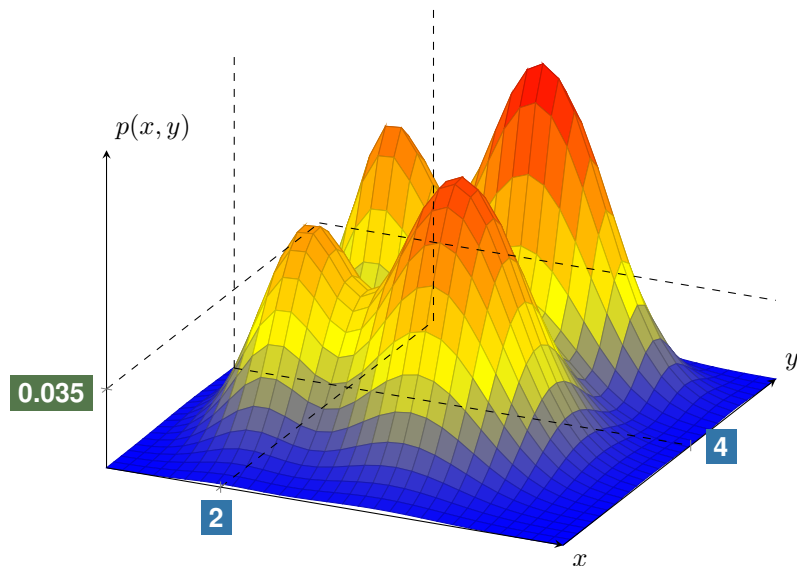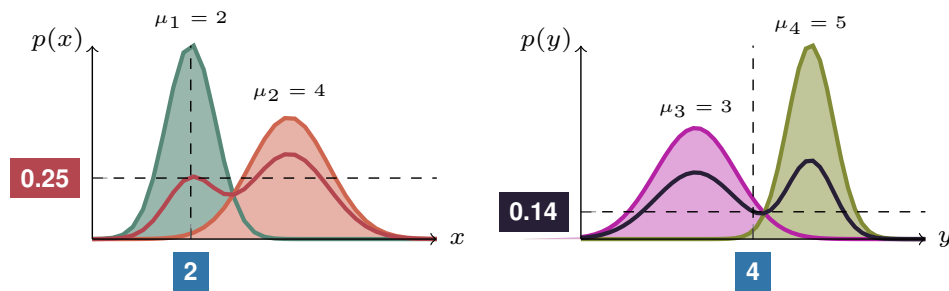*Every sum node child mentions the same variables.*

Probabilistic Circuits
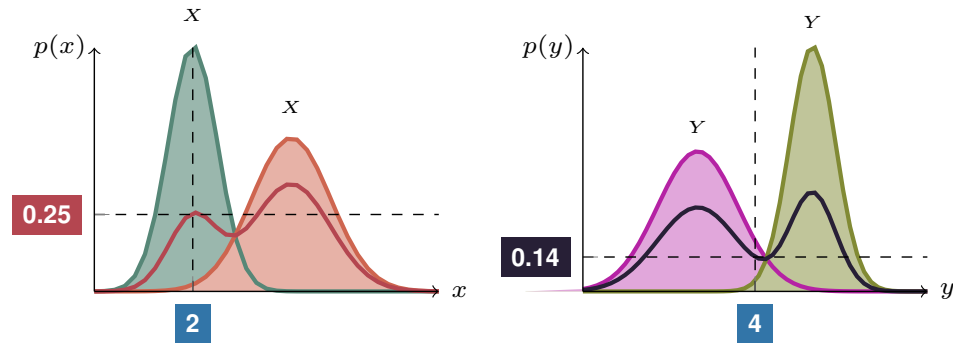

Definition 2 (Determinism).
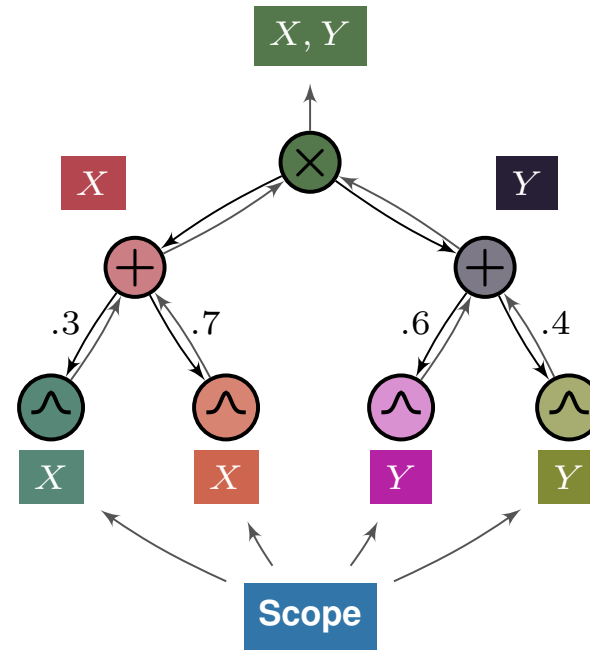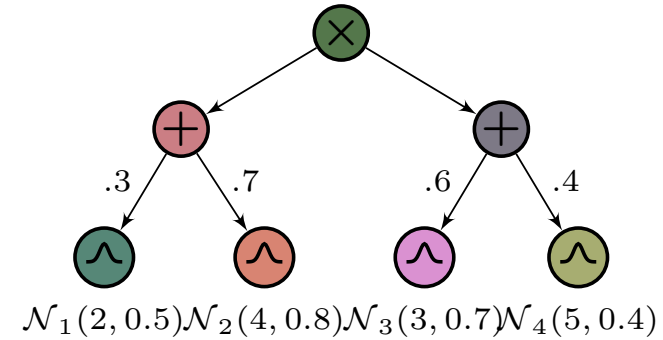*At most one sum node child has a positive value.*
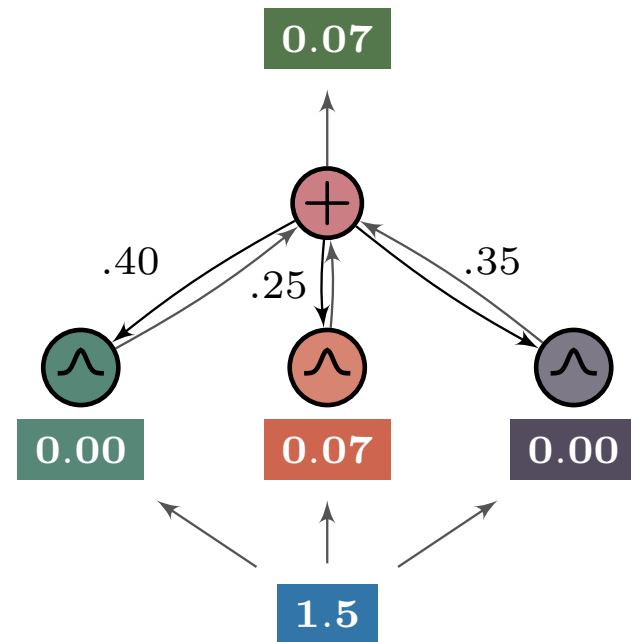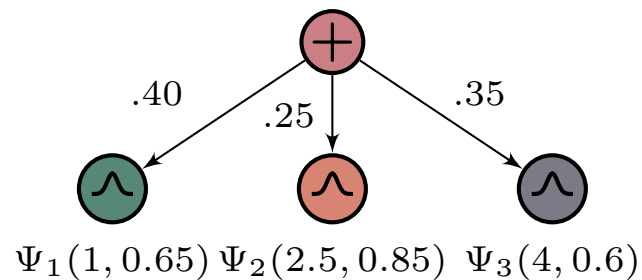
Probabilistic Circuits

Probabilistic Circuits

Definition 3 (Decomposability).
Every product node child mentions __different__ variables.

Double

A	B	C	$\phi(\mathbf{x})$	$p(\mathbf{x})$
0	0	0	1	0.140
1	0	0	1	0.024
0	1	0	0	0.000
1	1	0	0	0.000
0	0	1	1	0.560
1	0	1	1	0.096
0	1	1	0	0.000
1	1	1	1	0.180

Darwiche [2011]