



Extension of proposition 2:

Any logical function of $\mathbb{F}_2 \{ -1, 1 \}^n \rightarrow \{ -1, 1 \}$ can be computed with a McCulloch-Pitts network of two layers.

For 0 to be -1 or 1 , $\sum_{i=1}^n w_i x_i \in \{ -1, 1 \}$

Test cases: $(-1, -1, 1) \cdot (1, -1, -1) = -1 \checkmark$
 $(-1, -1, 1) \cdot (1, 1, -1) = -3 \times$

x_i	1	-1
w_i	1	1