

So Far We Have Only Assigned Truth Values to Atomic Formulas

How can we assign
truth values to more
complex formulas?

Extending V for Negation

Use 1 for **true**, and 0 for **false**.

For **negation** \neg

φ	$\neg\varphi$
1	0
0	1

or, in a shorter format:

\neg	φ
0	1
1	0

Negation behaves
like the 1-place
function

$$1-x=y.$$

Extending V for Conjunction and Disjunction

For **conjunction** \wedge

φ	\wedge	ψ
1	1	1
1	0	0
0	0	1
0	0	0

Conjunction
behaves like the 2-place
functions
 $(x_1 \cdot x_2) = y$
and
 $\min(x_1, x_2) = y$.

For **disjunction** \vee

φ	\vee	ψ
1	1	1
1	1	0
0	1	1
0	0	0