Lab #1 (Boolean Logic)

HINT: Don't THINK like a human, THINK like a chip! Simply "run" the expression!

Name: **Daniel DeVilbiss**
Section/Time: _____
Date: **06/23/2021**

KEY:

Symbol	.	+	$\bar{n}$
Meaning	AND	OR	NOT (n)

Complete the following table:

	x	0	0	1	1
	y	0	1	0	1
Function	**Expression**	**Result**			
CONSTANT **0**	0	0	0	0	0
x AND **y**	$x \cdot y$	0	0	0	1
x AND (NOT **y**)	$x \cdot \bar{y}$	0	0	1	0
x	x	0	0	1	1
(NOT **x**) AND **y**	$\bar{x} \cdot y$	0	1	0	0
y	y	0	1	0	1
x XOR **y**	$x \cdot \bar{y} + \bar{x} \cdot y$	0	1	1	0
x OR **y**	$x + y$	0	1	1	1
x NOR **y**	$\overline{x + y}$	1	0	0	0
Equivalence (**x** == **y**)	$x \cdot y + \bar{x} \cdot \bar{y}$	1	0	0	1
NOT **y**	$\bar{y}$	1	0	1	0
IF **y** THEN **x**	$x + \bar{y}$	1	0	0	1
NOT **x**	$\bar{x}$	1	1	0	0
IF **x** THEN **y**	$\bar{x} + y$	1	0	0	1
x NAND **y**	$\overline{x \cdot y}$	1	1	1	0
CONSTANT **1**	1	1	1	1	1