CSEE223 HW

Name: _____

Boolean Laws and Expressions

Date: _____

1.	Rule #1	
	Anything *OR*-ed with its own compliment is equal to 1:	A
	Anything *AND*-ed with a 0 is equal to 0:	B
	Anything *AND*-ed with its own compliment is equal to 0:	C
	Anything *OR*-ed with a 1 is equal to 1:	D
2.	Rule #2	
	Anything *OR*-ed with a 0 is equal to itself:	A
	Anything *OR*-ed with itself is equal to itself:	B
	Anything *AND*-ed with a 1 is equal to itself:	C
	Anything *AND*-ed with itself is equal to itself:	D
3.	Rule #3	
	Anything *AND*-ed with itself is equal to itself:	A
	Anything *OR*-ed with a 0 is equal to itself:	B
	Anything *AND*-ed with a 1 is equal to itself:	C
	Anything *OR*-ed with itself is equal to itself:	D
4.	Rule #4	
	Anything *OR*-ed with its own compliment is equal to 1:	A
	Anything *AND*-ed with a 0 is equal to 0:	B
	Anything *AND*-ed with its own compliment is equal to 0:	C
	Anything *OR*-ed with a 1 is equal to 1:	D
5.	Rule #5	
	Anything *AND*-ed with itself is equal to itself:	A
	Anything *OR*-ed with a 0 is equal to itself:	B
	Anything *AND*-ed with a 1 is equal to itself:	C
	Anything *OR*-ed with itself is equal to itself:	D

6.	Rule #6	
	Anything *AND*-ed with itself is equal to itself:	A
	Anything *OR*-ed with a 0 is equal to itself:	B
	Anything *AND*-ed with a 1 is equal to itself:	C
	Anything *OR*-ed with itself is equal to itself:	D
7.	Rule #7	
	Anything *OR*-ed with its own compliment is equal to 1:	A
	Anything *AND*-ed with a 0 is equal to 0:	B
	Anything *AND*-ed with its own compliment is equal to 0:	C
	Anything *OR*-ed with a 1 is equal to 1:	D
8.	Rule #8	
	Anything *OR*-ed with its own compliment is equal to 1:	A
	Anything *AND*-ed with a 0 is equal to 0:	B
	Anything *AND*-ed with its own compliment is equal to 0:	C
	Anything *OR*-ed with a 1 is equal to 1:	D
9.	Rule #9	
	A variable complimented twice will return to 0:	A
	A variable complimented twice will return to 1:	B
	A variable complimented twice will return to its original logic level:	C
	A variable complimented twice will return to itself:	D
10.	Rule #10	
	A + A’B = A + B	A
	A + AB’ = A + B	B
	A’ + A’B = A + B	C
	A + A’B’ = A + B	D
11.	Rule #10	
	A’ + AB = A’+ B	A
	A + AB’ = A + B	B
	A’ + A’B = A + B	C
	A + A’B’ = A + B	D

12.	(A • B) + (C • D)	
	Maxterm form:	A
	Sum-of-Products Form:	B
	Minterm form:	C
	Product-of-Sums Form:	D
13.	(A + B) • (C + D)	
	Maxterm form:	A
	Sum-of-Products Form:	B
	Minterm form:	C
	Product-of-Sums Form:	D
14.	DeMorgans Theorem	
	The grouping of several variables of *OR*-ed or *AND*-ed does not matter:	A
	Method for expanding an equation containing *OR*s and *AND*s:	B
	The order of *OR*-ing or *AND*-ing does not matter:	C
	Converting an expression with an inversion over 2 or more variables to an expression with inversion bars over single variables:	D
15.	Associative Law:	
	The grouping of several variables of *OR*-ed or *AND*-ed does not matter:	A
	Method for expanding an equation containing *OR*s and *AND*s:	B
	The order of *OR*-ing or *AND*-ing does not matter:	C
	Converting an expression with an inversion over 2 or more variables to an expression with inversion bars over single variables:	D
16.	Distributive Law	
	The grouping of several variables of *OR*-ed or *AND*-ed does not matter:	A
	Method for expanding an equation containing *OR*s and *AND*s:	B
	The order of *OR*-ing or *AND*-ing does not matter:	C
	Converting an expression with an inversion over 2 or more variables to an expression with inversion bars over single variables:	D
17.	Commutative Law	
	The grouping of several variables of *OR*-ed or *AND*-ed does not matter:	A
	Method for expanding an equation containing *OR*s and *AND*s:	B
	The order of *OR*-ing or *AND*-ing does not matter:	C
	Converting an expression with an inversion over 2 or more variables to an expression with inversion bars over single variables:	D