

Homework Week 12

(Lessons 28, 29, and 30)

Name _____

Simplify each Boolean expression.

1. $B(A + \bar{A}B)$

2. $ABC + \bar{A}BC + BCD$

3. $\bar{A}(A + B) + C$

4. $A + AB + \bar{A}B + A\bar{B} + \bar{A}\bar{B} + AB$

5. $\bar{A}BC + A\bar{B}C + ABC$

6. $\bar{A}\bar{B}\bar{C} + \bar{A}\bar{B}C$

7. $ABC + AB(CD + EF)$

8. $(ABC + CD)(CD + \bar{A} + \bar{B} + C)$

9. $\bar{A}\bar{B}\bar{C}D + \bar{A}BCD + AB\bar{C}D + ABCD$

10. $\overline{AC} + D + A$

11. $\overline{A + B} + \bar{A}C + B$

12. $A + \bar{B} + C + B$

13. $(A + \bar{C} + \bar{B})(B + C) + C$

14. $AB(A + \bar{B})$

15. $AB + AC + AD + BCD + B\bar{C}D + A\bar{B} + A\bar{C} + D$

16. Given the truth table below, write the Boolean expression and simplify it.

Inputs: A , B , and C			Output
A	B	C	?
0	0	0	1
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	0
1	1	1	0

17. Given the truth table below, write the Boolean Expression and simplify it.

Inputs: A and B		Output
A	B	?
0	0	1
0	1	1
1	0	0
1	1	0

18. Given the truth table below, write the Boolean Expression and simplify it.

Inputs: A and B		Output
A	B	?
0	0	1
0	1	0
1	0	0
1	1	0

19. Given the truth table below, write the Boolean expression and simplify it.

Inputs: A , B , and C			Output
A	B	C	?
0	0	0	0
0	0	1	0
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	0
1	1	1	0

20. Given the truth table below, write the Boolean expression and simplify it.

Inputs: A , B , and C			Output
A	B	C	?
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	1