Homework # 5 - Karnaugh Map

Student's Name_____

Instruction:
- Show all work to receive full credit. Box or circle the answer

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Use a Karnaugh map and Boolean algebra to simplify the following expression

1. $\bar{A}\bar{B}\bar{C} + A\bar{B}\bar{C} + A\bar{B}C + AB\bar{C} + ABC$

Karnaugh map	Boolean algebra

	$\bar{C}$	C
$\bar{A}\bar{B}$		
$\bar{A}B$		
AB		
$A\bar{B}$		

2. $\bar{A}\bar{B}\bar{C} + \bar{A}B\bar{C} + \bar{A}BC$

Karnaugh map	Boolean algebra

	$\bar{C}$	C
$\bar{A}\bar{B}$		
$\bar{A}B$		
AB		
$A\bar{B}$		

Use a Karnaugh map to simplify the following expression

3. $\bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}C\bar{D} + \bar{A}B\bar{C}D + \bar{A}BCD + \bar{A}BC\bar{D} + ABC\bar{D} + AB\bar{C}D + ABCD + A\bar{B}\bar{C}\bar{D} + A\bar{B}CD + A\bar{B}C\bar{D}$

	$\bar{C}\bar{D}$	$\bar{C}D$	CD	$C\bar{D}$
$\bar{A}\bar{B}$				
$\bar{A}B$				
AB				
$A\bar{B}$				

4. $\bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}\bar{C}D + \bar{A}BC\bar{D} + AB\bar{C}\bar{D} + ABC\bar{D} + ABCD + A\bar{B}\bar{C}\bar{D}$

	$\bar{C}\bar{D}$	$\bar{C}D$	CD	$C\bar{D}$
$\bar{A}\bar{B}$				
$\bar{A}B$				
AB				
$A\bar{B}$				

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

	$\bar{C}\bar{D}$	$\bar{C}D$	CD	$C\bar{D}$
$\bar{A}\bar{B}$				
$\bar{A}B$				
AB				
$A\bar{B}$				

-- Homework 5 Ends Here --