

## Digital 1 Test 2 Review

Simplify the expression, Draw the simplified logic diagram, and Construct a truth table proving that the two are equal (must use both the original and the simplified).

15) A C + A B C

16) B + A B C

## Digital 1 Test 2 Review

In the following problems, simplify each Boolean expression using a Karnaugh map.

17)  $A\bar{B} + \bar{A}\bar{B}$

	$\bar{A}$	$A$		
$\bar{B}$				
$B$				

18)  $\bar{A}\bar{B} + \bar{A}B$

	$\bar{A}$	$A$		
$\bar{B}$				
$B$				

19)  $\bar{A}B + \bar{A}\bar{B} + A\bar{B}$

	$\bar{A}$	$A$		
$\bar{B}$				
$B$				

20)  $ABC + A\bar{B}C + \bar{A}BC$

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

21)  $\bar{A}\bar{B}\bar{C} + \bar{A}\bar{B}C + A\bar{B}C$

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

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22)  $\bar{A}BC + A\bar{B}C + ABC$

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

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23)  $\bar{A}\bar{B}CD + \bar{A}B\bar{C}D + A\bar{B}CD + ABCD$

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

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24)  $ABC\bar{D} + A\bar{B}CD + A\bar{B}C\bar{D} + ABCD$

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

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25)  $\bar{A}BC + A\bar{B}CD + A\bar{B}C\bar{D}$

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

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**BONUS 4 POINTS:** Predict the output.  
Label the blanks with 0's or 1's

