Name: _____

Value: 3

Complete the following table.

Bits		Results			
bit1	bit2	~bit1	bit1 & bit2	bit1 | bit2	bit1 ^ bit2
0	0				
0	1				
1	0				
1	1				

Given the declaration

                        unsigned int opnd;

what is the value of each of the following expressions?

opnd & 0		opnd & ~0	
opnd & opnd		opnd & ~opnd	
opnd | 0		opnd | ~0	
opnd | opnd		opnd | ~opnd	
opnd ^ 0		opnd ^ ~0	
opnd ^ opnd		opnd ^ ~opnd	

Use the following declarations and initializations as you evaluate the following expressions:

$$\text{unsigned int a = 0xB5, b = 0x9D, c = 0x3E;}$$

Answers should be shown in hexadecimal. Assumptions:

- `unsigned ints` are 8 bits in length,
- the rightmost bit in the internal representation (the least significant bit) is numbered 0, and
- the leftmost bit in the internal representation (the most significant bit) is numbered 7.

`!a`	0x00	`~b`	0x62
`!!c`	0x01	`~(!b)`	0xFF
`!(~a)`	0x00	`a && b`	0x01
`!a && c`	0x00	`b & c`	0x1C
`!b || !c`	0x00	`a	c`	0xBF
`b ^ c`	0xA3	`a << 2`	0xD4
`c >> 3`	0x07	`getBit(a, 4)`	0x01
`getBits(b, 2, 4)`	0x07	`setBit(c, 3, 0)`	0x36
`setBit(a, 1, 1)`	0xB7	`setBits(b, 0, 3, 2)`	0x9A
`(c & 3) == 0`	0x00	`a ^ ~a`	0xFF
`(b & 1) == 1`	0x01	`a ^ b`	0x28
`c & ~c`	0x00	`c ^ ~0`	0xC1