

Name: _____
 Value: 3

Complete the following table.

Bits		Results			
bit1	bit2	\sim bit1	bit1 & bit2	bit1 bit2	bit1 ^ bit2
0	0	#1	#2	#3	#4
0	1		#5	#6	#7
1	0	#8	#9	#10	#11
1	1		#12	#13	#14

Given the declaration

```
unsigned int opnd;
```

what is the value of each of the following expressions?

opnd & 0	#15	opnd & \sim 0	#16
opnd & opnd	#17	opnd & \sim opnd	#18
opnd 0	#19	opnd \sim 0	#20
opnd opnd	#21	opnd \sim opnd	#22
opnd ^ 0	#23	opnd ^ \sim 0	#24
opnd ^ opnd	#25	opnd ^ \sim opnd	#26

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

```
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	#27	~b	#28
!!c	#29	~(!b)	#30
!(~a)	#31	a && b	#32
!a && c	#33	b & c	#34
!b !c	#35	a c	#36
b ^ c	#37	a << 2	#38
c >> 3	#39	getBit(a, 4)	#40
getBits(b, 2, 4)	#41	setBit(c, 3, 0)	#42
setBit(a, 1, 1)	#43	setBits(b, 0, 3, 2)	#44
(c & 3) == 0	#45	a ^ ~a	#46
(b & 1) == 1	#47	a ^ b	#48
c & ~c	#49	c ^ ~0	#50