

Name _____

CM _____

Section _____

**Problem 2– Short answer
(30 pts)**

2.1) (4 pts) $x = -6$; If x is defined as a char, how would it display as a binary number in the watch window?

11111010

2.2) (4pts) $x = 'M'$ If x is defined as a char, how would it display as a binary number in the watch window?

'M' is 77 in ASCII, which is 01001101

2.3) (6 pts) Write the C code to perform the following: create an array, named *allSeventeen*, of 6 int variables where each element in the array is set to 17:

int allSeventeen[] = {17, 17, 17, 17, 17, 17};

2.4) (6 pts) Create an if statement (or switch statement) based on the first element in the array named *allSeventeen*. If the first element is 17 print “The first element is 17” to the screen, otherwise print “The first element is NOT 17” to the screen. (Trivia: 17 is my (Dr. B's) favorite number.)

```
if (allSeventeen[0] == 17) {  
    printf("The first element is 17\n");  
} else {  
    printf("The first element is NOT 17\n");  
}
```

2.5) (10 pts) Determine the output of this code:

(ie If you were using the simulator UART capture window, what would appear in the window?)

```
#include <stdio.h>

int g(int a, int b);
void f(int n);

void main()
{
    f(4);
    printf("Goodbye!");
    while(1);
}

void f(int n)
{
    int i,result;
    for ( i=1 ; i<=n ; i++)
    {
        result = g(i,n);
    }
    printf("\nProduct = %d\n" , result);
}

int g(int a, int b)
{
    printf("( %d of %d)  ", a,b);
    return a*b;
}
```

(1 of 4) (2 of 4) (3 of 4) (4 of 4)

Product = 16

Goodbye!

When you finish the written portion of the test, turn it in to receive the computer portion.