

EE 2905

Dr. Johnson

Homework 2

1 – Write each of the following numbers using the designated representation you must show your work . 15pts

Decimal Value (convert to 8 bit unsigned binary)
202

Decimal Value (convert to 8 bit two's-complement)
-86

Decimal Value (convert to 8 bit two's-complement)
95

2 – Write each of the numbers in the designated representation in base 10 you must show your work . 15pts

Binary Value (8 bit unsigned binary) --> Decimal
1000 1101

Binary Value (8 bit two's-complement)--> Decimal
1100 0001

Binary Value (8 bit two's-complement)--> Decimal
0100 0001

3 – Convert the following numbers - you must show your work.

20pts

Decimal Value --> Hex (assume 2's complement)

-88

Binary Value (8 bit two's-complement)--> Hex

1100 0001

Binary Value (8 bit unsigned binary) --> Hex

1100 0001

Hex Value (8 bit unsigned binary) --> Decimal

0xCC

4 – Choose the best type of variable for each of the following and select a meaningful name and write a declaration for each.

(bool, char, int, float, float complex)

25pts

type

name

of cars in MSOE garage

--

average temperature in March

--

indicates the garage is full or not

--

rectangular coordinates on the complex unit circle

--

middle initial

--

5 – Choose the best type of variable for each of the following, select a meaningful name and write a declaration for each.

(int8_t, uint8_t, int16_t, uint16_t, int32_t, uint32_t)

25 pts

	type	name
number of students at MSOE		
distance from earth to moon		
# of skittles in a small bag		
net number of students leaving the CC building in a 10 minute time period		
age difference between two siblings		