

HW 4

Number Systems – Part 1

Name: _____ Time spent: _____ min

1) Write each of the following numbers using the designated binary representation - you must show your work .

30pts

Decimal Value (convert to 8 bit unsigned binary)
205

Decimal Value (convert to 8 bit two's-complement)
-83

Decimal Value (convert to 8 bit two's-complement)
98

2) Write each of the numbers in the designated representation in base 10 - you must show your work . 30pts

Binary Value (8 bit unsigned binary) --> Decimal
1000 1001

Binary Value (8 bit two's-complement) --> Decimal
1100 0101

Binary Value (8 bit two's-complement) --> Decimal
0101 0001

3 – Choose the best type of variable for each of the following and select a meaningful name for each. 40 pts

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

number of students at MSOE

type	name

distance from earth to moon in miles

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of skittles in a small bag

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net number of students leaving the CC building
in a 10 minute time period

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age difference between two siblings

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