Name:

Date:

Class: CS 160

Assignment #3

1) Compute the following problems using **regular binary** (Keep answers in 8-bit binary). (Four Points)

1. 100001012 + 001101012 =
2. 000001112 + 010011112 =
3. 111000002 + 000101102 =
4. 000000112 + 000010002 =
5. 111011002 – 001001102 =
6. 110011002 – 001111002 =
7. 111000002 – 000011112 =
8. 001100002 – 000000112 =

2) Compute the following addition problems using **two’s complement** (Keep answers in two’s comp. 4-bit binary). (Four Points)

1. 01012 + 00102 =
2. 00012 + 01002 =
3. 01002 + 11102 =
4. 10112 + 01012 =
5. 11002 + 11112 =
6. 11102 + 01102 =
7. 10002 + 00112 =
8. 00102 + 01002 =

3) Compute the following subtraction problems using two’s complement (Keep answers in two’s comp. 4-bit binary). (Four Points)

1. 01112 – 00112 =
2. 00002 – 11102 =
3. 00112 – 00012 =
4. 11002 – 00112 =
5. 11112 – 01012 =
6. 11002 – 00012 =
7. 10112 – 11012 =
8. 11102 – 00102 =

4) Create a 4-bit two’s complement table. (Four Points)

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5) Create an ***excess 8*** notation table. (Four Points)

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