

Digital Design

COE 211

Sheet - 03

1. Express the decimal numbers below in the 2's complement signed form

-39	+19	-19
-25	-32	-15

2. Determine the **decimal values of the signed numbers** expressed in 2's complement:

0110 →	01111 →
1010 →	1100 →
10111 →	11100 →

3. With one byte or 8-bit, you can represent _____ different numbers
4. With two bytes or 16-bit, you can represent _____ different numbers
5. If you have 3-bits, with 2's complement signed form, what is the lower and upper value that can be represented
6. If you have 8-bits, with 2's complement signed form, what is the lower and upper value that can be represented
7. What is the highest **unsigned decimal number** that can be represented by each of the following numbers of binary digits (bits)?

Two	Three	Five
Six	Nine	10

8. Perform each of the following subtractions of the signed numbers:

00001000 – 00000011	00001100 - 11110111	11100111 - 00010011
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