Name: _____ *Student #:* _____

Due Date: 30 Jan, beginning of class.

Notes:

- **Show your work.**
- Follow all instructions, to include the Homework Policies and Procedures.
- Make sure your answers are clearly marked.

Part 1. From the text. Complete the following problems

1.1
1.4
1.7
1.8
1.10
1.14
1.18
1.20
1.35
1.36

Part 2. Base Conversions (not in the book)

2.1 Perform the following conversions:

a) 315_{10} to Base 2
b) 467_{10} to Base 8
c) $5B6A_{16}$ to Base 10
d) $0111\ 1101_2$ (unsigned number) to Base 10
e) 367_8 to Base 2
f) 66_8 to Base 16

2.2 Are the following equal?

a) 594_{10} and 1122_8
b) 514_8 and 152_{16}
c) $5D9_{16}$ and 2730_8
d) 22_{10} and 12_{16}
e) 14_8 and 1110_2
f) 7_{16} and 111_2

2.3 Perform the following conversions.

a) 5_{10} to Base 5.
b) 5_7 to Base 6.

Name: _____ *Student #:* _____

2.4 Calculate the numbers -15 to 15 in both 1's and 2's complement. Be sure to have enough bits to adequately represent the range.

2.5 Calculate the signed-magnitude, 1's complement and 2's complement for the following numbers.

a) $\pm 22_{10}$
b) $\pm 31_{10}$
c) $\pm 25_{10}$
d) $\pm 54_{10}$