Assembly Language Quiz #1 Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**In order to get potential full credit for the Blackboard Quiz, you must show all work and submit this worksheet in person on Monday, Sept 19th, 2016 at the beginning of class (or if you have a scanner, you may email me a scanned PDF file of this worksheet and email to** [**paul.conrad@rcc.edu**](mailto:paul.conrad@rcc.edu)**).**

**For the actual Blackboard Quiz, you will copy your answer from your worksheet to the respective multiple choice question.**

**If you want to, you can type out your shown work, make sure to use the MS Word highlight tool to highlight your shown work (see problem 0 – Example)**.

Convert the following base 10 unsigned integers to hexadecimal, octal and binary using a 16 bit short integer data type (you must show all work!)

0. Example: Convert 154 base 10 to hexadecimal, octal, and binary.

Shown work: 154 / 16 = 9 with remainder of 10 (digit A in hex)

9 / 16 = 0 with remainder of 9,

154 base 10 is 9A in base 16, 1001 1010 in base 2, 232 in base 8

1. Convert 3847 base 10 to hexadecimal, octal, and binary.

2. Convert 19136 base 10 to hexadecimal, octal, and binary.

3. Convert 31476 base 10 to hexadecimal, octal, and binary.

4. Convert 8164 base 10 to hexadecimal, octal, and binary.

Convert the following base 10 signed integers to hexadecimal only (you must show all work!)

5. Convert +387 base 10 to hexadecimal.

6. Convert -3197 base 10 to hexadecimal.

7. Convert -31394 base 10 to hexadecimal.

Assuming we are using 16 bits, with 8 bits to the left of the binary point and 8 bits to the right of the binary point, convert the following base 10 numbers to binary if possible (you must show all work!)

8. Convert 36.375 base 10 to binary (do not round numbers).

9. Convert 113.0875 base 10 to binary (do not round numbers).

10. Convert 0.33333333 (repeats forever – think of 1/3) base 10 to binary (do not round numbers).

11. Convert 511.15 base 10 to binary (do not round numbers).

Using 32 bit IEEE754 Floating Point Format, convert the following base 10 values to 32-bit IEEE754 Floats in hexadecimal (you must show all work!).

12. Convert 36.375 to IEEE754 Floating Point (answer in hex)

13. Convert 0.625 to IEEE754 Floating Point (answer in hex)

14. Convert -100.15 to IEEE754 Floating Point (answer in hex)