Algorithm Worksheet

**Your Name: \_\_\_\_\_\_\_\_\_Rider Jensen\_\_\_\_\_\_\_ Course and Section: \_\_CS 1400-001\_**

**The purpose of this design worksheet is to help you organize your thoughts as you work out the solution to a particular programming problem. Filling out this worksheet is not busy work. Seasoned programmers know that it is much easier to write code once they have done the necessary design work. If you give your completed worksheet to someone else in the class, they should be able to write the program just from the information on this sheet.**

**What is the problem to be solved?** In the space below, try to write in your own words a brief statement of the problem that is to be solved in this project/lab.

A delivery truck time needs to be increased by 25% in military time

**What do I know?** In this space, write down any facts that you know about this problem. Leave out extraneous information – stick to the facts that are required to solve the problem.

I get one 24-hour input from the user of a start time. I get another 24-hour input from the user of end time. I then need to convert this to minutes, increase this by 25%, and display the new end time (old end time + (difference old start time – old end time) \*.25)??

**What can I visualize about the problem?** In the space below sketch any pictures, diagrams, or charts that might help you visualize the problem to be solved. Label values, make note of relationships, and look for patterns. Then write down any new facts that you have uncovered. If you found any mathematical relationships try to write down equations or formulas that express these relationships.

**What do I need from the user?** In this space, write down any data that you need to collect from the user.

I need an input of start time and end time

**What will my program produce?** In this space write down what it is that your program will produce. Note any special formatting that may be required when you output this data.

The program should give a new end time

**Line-by-line description of what the program needs to do using Pseudocode:** Pseudocode is a list of English-like statements that precisely define the operations that your program will perform. In this space, write down line by line exactly what your program will do. Avoid using C# language. Include all of the details that are necessary if someone were to write the program using your pseudocode.

1. Get input from user for old start time
2. Get input from user for old end time
3. Convert these into minutes
4. Take the difference between them (old end time – old start time)
5. Multiply this by 1.25
6. Add that amount to the old start time in order to find the new end time
7. Display
8. **Test Values:** In the space below, write down at least three different possible sets of input values that you can use to test this program. Using a calculator, spreadsheet, or by hand compute the answers that you believe your program should produce. **Use these values to test your final program.**