This worksheet is for your use during and after lecture. It will not be collected or graded, but I think you will find it a useful tool as you learn C++ and study for the exams. Explain all false answers for the "True or False" questions; in general, show enough work and provide enough explanation so that this sheet is a useful pre-exam review. I will be happy to review your answers with you during office-hours, via Email, or instant messaging.

1. Name six binary operators in C++.

2. When binary operators are overloaded by global functions:
   (a) True or False: Both operands must be of the same class.

   (b) True or False: The calling object is on the left of the operation symbol.

   (c) True or False: The operator should return one of the arguments provided.

   (d) True or False: The operator must be written in some class' scope.

3. (a) Write the protoype of a `friend` global operator for taking the modulus of a `myClass` object (LHS) and an integer (RHS). It should return an integer value.

   (b) Where would you find the answer to part a within `myClass`' source files?

   (c) Write the protoype of a global operator for multiplying an integer (LHS) with a `myClass` object (RHS). It should return a new `myClass` object.

   (d) Where would you find the answer to part c within `myClass`' source files?

   (e) Assume `myClass` has a default constructor. Write a snippet of C++ that would invoke the two global operators prototyped in parts a and c.

4. The `friend` keyword may occur in C++ source *only* between the curly braces of what?

5. The following is the **function header** of a global operator:

```
int operator-( const myClass& lhs, int rhs )
```

   Is the operator a `friend` of `myClass` or not?

   A. Certainly not.

   B. Maybe, I could tell for sure if I saw the function implementation.

   C. Maybe, I could tell for sure if I saw the `myClass` declaration.

6. Write the prototype of a global `operator<<` for `myClass`.

7. Write the prototype of a global `operator>>` that is a `friend` of `myClass`. Where is this protoype found?

8. Consult the appendix of your Mines Calculus book and review the topic of complex numbers. Write a C++ class representing complex numbers with floating point real and imaginary parts. Implement addition ($z_1 + z_2$), scalar multiplication (αz), and an output operator that prints the complex number in the same format as your mathematics reference does.