Introduction to C++ - Quiz 1, 17 Feb 2010

Name: _____   ID: _____

This is a *closed book* quiz. There are seven questions on two pages, for a total of 20 possible points. For each question, fill in the blank with your answer.

In the code fragments, assume that the context (e.g. appropriate header files and `using namespace` statements) has been specified correctly.

In questions that ask what a fragment would print, in each case your answer should consist of one or more decimal digits (don't worry about spaces or newlines).

1. What would the following code fragment print (4 pts)? _____

    ```cpp
    int a[] = { 2, 3, 5 };
    cout << *a + 2 << *(a + 2) << endl;
    ```

2. What would the following code fragment print (4 pts)? _____

    ```cpp
    void clever_swap(int &x, int &y) {
      x = x - y;
      y = x + y;
      x = y - x;
    }

    int a = 1, b = 2;
    clever_swap(a, b);
    clever_swap(a, a);
    cout << a << b << endl;
    ```

3. What would the following code fragment print (4 pts)? _____

    ```cpp
    class myclass {
      int x;
    public:
      myclass(int x = 2) { myclass::x = x; cout << 1; }
      ~myclass() { cout << x; }
    };
    myclass *pc = new myclass();
    cout << 3;
    delete pc;
    cout << endl;
    ```

4. In the C++ standard library, is `cin` an object or a class (2 pts)? _____

5. Would the following code compile without errors? If no, give a brief description of the problem (3 pts).

_____

```
int main() {
  struct example1 {
    int x, y;
  } *p, q;
  p = new example1;
  q = new example1;
}
```

6. Would the following code compile without errors? If no, give a brief description of the problem (3 pts).

_____

```
class example2 {
private:
  int x;
public:
  // ...
  int setx(int x) const { example2::x = x; }
  int getx() const { return x; }
};
```