CSE1502-O4 Spring 2009 Final Exam.
Open book, open notes, no computers.

Name _____

1. Number the following 4 steps in writing a program in the order they should be done (10 points).

	ANSWERS
Write the code.	**3**
Describe how the program works.	**2**
Describe what the program does.	**1**
Test the program.	**4**

2 What does the following print? (3 points each)

	ANSWERS
char a[7] = "banana";	
string s = a;	
cout << s;	**banana**
cout << int(s.size());	**6**
cout << s[2];	**n**
cout << a + 2;	**nana**
cout << char(*a + 2);	**d**
cout << int(*(a + 6));	**0**
cout << 3.0 + 4 / 5;	**3**
cout << 'a' + s + a;	**abananabanana**
cout << s.substr(2, 3);	**nan**
cout << ++*(a + 3);	**b**

3. Write a function **hyphenate** that takes a string and replaces all the spaces with hyphens. For example: (30 points)

```
string s = "this is a test";
hyphenate(s);
cout << s;  // this-is-a-test
```

// ANSWER

```
void hyphenate(string& s)
{
  for (int i=0; i<int(s.size()); ++i)
    if (s[i] == ' ')
      s[i] = '-';
}
```

4. Write a program that takes a distance in feet and inches as two command line arguments and prints the distance in meters. (1 foot = 12 inches = 0.3048 meters). For example if your program compiles to **a.exe** then: (30 points)

```
a.exe 5 11.5
1.8161 meters
```

// ANSWER

```
#include <iostream>
#include <cstdlib>
using namespace std;

int main(int argc, char* argv[])
{
  cout << 0.3048 *
    (atof(argv[1]) + atof(argv[2])/12)
    << " meters\n";
  return 0;
}
```