CSCI 001 **Exam #2**
Fall 2019 Programming using C++ Name_____

Part II: (*Write your answer in the provided box…40 points*)

1. What is the output?

```
int size = 22;
char a[] = "deliver straw desserts";

for (int i = size-1; i > 0; i--) {

	if (a[i] == ' ')
		cout << endl;
	else
		cout << a[i];
}
```

2. What is the output?

```
int x = 5;
int y = 6;
int* z = &x;

functionOne(x);
cout << x << endl;

functionTwo(y);
cout << y << endl;

functionThree(z);
cout << *z << endl;
```

```
void functionOne(int arg) {
	arg = 10;
}
void functionTwo(int& arg) {
	arg = 20;
}
void functionThree(int* arg) {
	*arg = 30;
}
```

3. Write a function that takes in an integer array and its size and returns the difference between the first and last element.

4. Given the following structure definition for Line $y = mx + b$: (***assume the methods are well implemented***)

```
struct Line{ // data structure Line y=mx+b
      double m, b;

      void displayLine( void );
      double evaluateLine( double x );
};
```

a. Instantiate one Line object of the form $y = 5x - 1$ and display it. (No user input.)

b. Write code that gets x from the user and displays the corresponding y-value.

Example output if a user types in 2.1:

```
For x = 2.1 then y = 9.5
```

5. What is the output?

```
vector<int> myVector(15);

for (int i = 0; i < 15; i++) {
      if (i % 2 == 0)
            myVector[i] = 2 * i ;
      else
            myVector[i] = 2 * i - 1;
}

displayVector(myVector);}
```

```
void displayVector(vector<int> arg) {
      for (int i = 0; i < arg.size(); i++) {
            if (i % 5 == 0)
                  cout << endl;
            cout << arg[i] << "\t";
      }
}
```