Name:

CSc 116 A02 - Fall 2018

Student Number:

On the back of the page, write a syntactically correct C++ fucnction **setsEqual** that takes two sets and returns whether the sets contain the same elements. Your function must use parameters return types for input and output (not **cin** or **cout**). Your solution must work on **all valid inputs**, not just the one shown below. The following is an example call to **setsEqual**:

```
#include <iostream>
#include <set>

// Your function here.

int main()
{
    std::set<int> s1 {1, 2, 3, 4, 5};
    std::set<int> s2 {2, 1, 5, 3, 4};

    std::cout << setsEqual(s1, s2) << std::endl;

    return 0;
}
```

When your code is correct, the output will be: **1**

A sample solution is as follows:

```
bool equal(std::set<int> const& s1, std::set<int> const& s2)
{
    if (s1.size() != s2.size())
    {
        return false;
    }

    for (auto e : s1)
    {
        if (s2.find(e) == s2.end())
        {
            return false;
        }
    }
}
```

An alternative solution:

```
bool equal(std::set<int> const& s1, std::set<int> const& s2)
{
    return (s1 == s2);
}
```