

```
1
2 // COS30008, Tutorial 2, 2022
3
4 #include "Polygon.h"
5
6 #include <stdexcept>
7
8 using namespace std;
9
10
11 float Polygon::getSignedArea() const
12 {
13     double leftSum = 0.0;
14     double rightSum = 0.0;
15
16     for (int i = 0; i < fNumberOfVertices; ++i) {
17         int j = (i + 1) % fNumberOfVertices;
18         leftSum += fVertices[i].getX() * fVertices[j].getY();
19         rightSum += fVertices[j].getX() * fVertices[i].getY();
20     }
21
22     return 0.5 * abs(leftSum - rightSum);
23 }
24
```