

Quiz 5

You have up to 25 minutes. Please write your answers on this page, and your name at the top. You may not use the computer, notes, or books.

This program uses functions, one of which has a **reference** parameter. What does it output?

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

void frog(int x)
{
    x++;
    cout << x << endl;
}

void pig(int& y)
{
    y++;
    cout << y << endl;
}

int main()
{
    int z = 6;
    pig(z);
    frog(z);
    cout << z << endl;
    return 0;
}
```

(over)

This program uses functions which return values. What does it output?

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

int zig(int x)
{
    return x/2;
}

int zag(int y)
{
    return 3*y+1;
}

int main()
{
    cout << zag(zag(zig(10))) << endl;
    cout << zig(zig(zag(9))) << endl;
    return 0;
}
```

Below is another program that uses a tally vector with two entries. What does it output?

```
#include <iostream>
#include <vector>
using namespace std;
int main()
{
    vector<int> xs(2);
    for(int i = 1; i < 16; i++)
    {
        if(i % 3 == 0) xs.at(0)++;
        if(i % 5 == 0) xs.at(1)++;
    }
    cout << xs.at(0) << endl;
    cout << xs.at(1) << endl;
    return 0;
}
```