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

// This program will demonstrate the scope rules.

// Michael Steele

const double PI = 3.14;
const double RATE = 0.25;

void findArea(float, float&);
void findCircumference(float, float&);

int main()
{
	cout << fixed << showpoint << setprecision(2);
	float radius = 12;

	cout << " Main function outer block" << endl;
	cout << " PI, Rate, and Radius." << endl << endl;

	{
		float area;

		cout << "Main function first inner block" << endl;
		cout << "Area, PI, Rate, and Radius." << endl << endl;

		// Fill in the code to call findArea here
	findArea(radius,area);

		cout << "The radius = " << radius << endl;
		cout << "The area = " << area << endl << endl;
	}

	{
		float radius = 10;
```

```
        float circumference;

        cout << "Main function second inner block" << endl;
        cout << "Circumference, PI, Rate, and Radius." << endl << endl;

        // Fill in the code to call findCircumference here
        findCircumference(radius,circumference);

        cout << "The radius = " << radius << endl;
        cout << "The circumference = " << circumference << endl << endl;
    }

    cout << "Main function after all the calls" << endl;
    cout << "PI, Rate, and Radius." << endl << endl;

    return 0;
}

//    ***********************************************************************
//    findArea
//
//    task:    This function finds the area of a circle given its radius
//    data in:  radius of a circle
//    data out: answer (which alters the corresponding actual parameter)
//
//    ***********************************************************************

void findArea(float rad, float& answer)
{
    cout << "AREA FUNCTION" << endl << endl;
    cout << "Rad, Answer, PI, Rate, and Radius." << endl << endl;

    // FILL in the code, given that parameter rad contains the radius, that
    // will find the area to be stored in answer
    answer = PI * rad * rad;

}
```

```
//     *******************************************************************************
//     findCircumference
//
//     task:     This function finds the circumference of a circle given its radius
//     data in:  radius of a circle
//     data out: distance (which alters the corresponding actual parameter)
//
//     *******************************************************************************

void findCircumference(float length, float& distance)
{
     cout << "CIRCUMFERENCE FUNCTION" << endl << endl;
     cout << "Length, Distance, PI, Rate, and Radius." << endl << endl;

     // FILL in the code, given that parameter length contains the radius,
     // that will find the circumference to be stored in distance
     distance = 2.0 * PI * length;

}
```