Chapter 6 (page 288 # 6 – slightly modified)

The following formula gives the distance between two points \((x_1, y_1)\) and \((x_2, y_2)\).

\[
\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}
\]

If one of the points corresponds to the center point of a circle, and the other point corresponds to a point on the circle, we can figure out the radius of the circle using the above formula.

Here is the main program:

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

//the function prototype goes here

int main()
{
    float x1,y1,x2,y2;
    float r;

    cout<<"Enter 4 numbers corresponding to the";
    cout<<"coordinates of two points";

    cin>>x1>>y1>>x2>>y2;

    r = radius(x1,y1,x2,y2);

    cout<<"The radius is: "<<<r;
    return 0;
}
```
Type in the code that is listed above. Create the function prototype and function code for radius and place them in the appropriate spots. The function accepts 4 float numbers and return 1 float number. The function should use the `sqrt` and `pow` predefined functions.

Write another function called `circumference`, that takes the radius of the circle and returns the circle’s circumference. The formula for a circumference is: $2 \cdot \pi \cdot r$

Write another function called `area` that takes the radius of the circle and returns the area of the circle. The formula for the area of the circle is: $\pi \cdot r^2$