时间限制：C/C++/Rust/Pascal 2秒，其他语言4秒
空间限制：C/C++/Rust/Pascal 512 M，其他语言1024 M
Special Judge, 64bit IO Format: %lld

题目描述

Let the Earth be a sphere centered at $(0, 0, 0)$ with a radius r in 3D Euclidean space. There is a flight flying along the shortest path from the departure place to the destination place on the surface of the Earth.

As an aviation enthusiast, you have a receiver that can receive the signal from the flight with a distance no more than d. Note that we calculate the distance between two points by measuring the shortest path on the surface of the Earth, which is NOT the Euclidean distance in 3D Euclidean space.

You need to find the area of the region on the surface of the Earth where you can receive the signal from the flight with the receiver at some time when the flight is flying.

输入描述:

The first line of the input contains an integer T ($1 \le T \le 10^4$), indicating the number of test cases. For each test case:

The first line contains two integers r ($1 \le r \le 100$) and d ($1 \le d \le 1\,000$), indicating the radius of the Earth and the maximum distance on the surface of the Earth for receiving the signal from the flight.

The second line contains three integers u, v, and w $(-100 \le u, v, w \le 100, u^2 + v^2 + w^2 > 0)$, indicating that the departure place has coordinates $\left(\frac{ru}{\sqrt{u^2+v^2+w^2}}, \frac{rv}{\sqrt{u^2+v^2+w^2}}, \frac{rw}{\sqrt{u^2+v^2+w^2}}\right)$.

The third line contains three integers x, y, and z $(-100 \le x, y, z \le 100, x^2 + y^2 + z^2 > 0)$, indicating that the destination place has coordinates $\left(\frac{rx}{\sqrt{x^2+y^2+z^2}}, \frac{ry}{\sqrt{x^2+y^2+z^2}}, \frac{rz}{\sqrt{x^2+y^2+z^2}}\right)$.

It is guaranteed that the departure place and the destination place cannot coincide with each other and cannot be directly opposite each other on the Earth. Therefore, the shortest path from the departure place to the destination place on the surface of the Earth is uniquely determined.

输出描述:

For each test case, output a line containing a real number, indicating the area of the region on the surface of the Earth where you can receive the signal from the flight with the receiver at some time when the flight is flying.

C++（clang++18）
1
ACM模
请通过
入输出
出描述
运行结果 自测