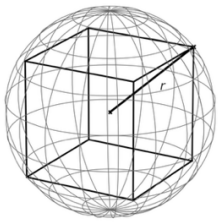
Exam 1_A1-1: Sphere and cube

Objective: **Data types and expressions**

Consider a sphere with radius r (input) in meters that just perfectly fits a cube (with edge length a in meters) inside (all vertices of the cube just touch the surface of the sphere). Write a Python code to accept the sphere radius input r, and print out the volume of the sphere outside the cube.



- Volume of a sphere $= \frac{4}{3}\pi r^3$
- Relationship between the cube's edge length and sphere radius:

$$4r^2 = 3a^2$$

Input

One floating-point value of the radius r in meters.

Output

The volume of the sphere outside the cube in cubic meters rounded with `round(ans,2)`, where `ans` is your answer.

Examples

Input (from keyboard)	Output (on screen)	The range of inputs for additional test cases: 40%< 3; 80%< 7; the rest > 7.
1.4	7.27	
3.01	72.25	
5.15	361.86	