Real Root of Cubic Equation

Many engineering students already know that the roots of the equation $ax^2 + bx + c = 0$ are given by $\frac{-b \pm \sqrt{b^2-4ac}}{2a}$. However, only few students know the roots of the cubic equation $ax^3 + bx^2 + cx + d = 0$ can be given as follows:

$$x = -\frac{b}{3a} - \frac{1}{3a}\sqrt[3]{\frac{1}{2}\left[2b^3 - 9abc + 27a^2d + \sqrt{(2b^3 - 9abc + 27a^2d)^2 - 4(b^2 - 3ac)^3}\right]}$$

$$-\frac{1}{3a}\sqrt[3]{\frac{1}{2}\left[2b^3 - 9abc + 27a^2d - \sqrt{(2b^3 - 9abc + 27a^2d)^2 - 4(b^2 - 3ac)^3}\right]}$$

Note: When using this formula, the computation of the square root may result in a complex number. Students need not worry about this because the test cases provided will not lead to such situations.

Task

Write a program that accepts the values of a, b, c, and d to find the single real root of the equation $ax^3 + bx^2 + cx + d = 0$

Input

Real numbers a, b, c, and d on a single line, separated by spaces, representing the coefficients of the equation $ax^3 + bx^2 + cx + d = 0$

Output

The value of the real root of the equation $ax^3 + bx^2 + cx + d = 0$ calculated using the above formula, displayed to 3 decimal places.

Example

Input	Output
1 0 0 1	-1.0
2 0 0 16	-2.0
1 0 0 8	-2.0
1 10 -2 3	-10.224