

N. Subspace Manifold Equilibrium

Standard I/O | Time Limit: 1.0s | Memory Limit: 512MB

To activate the hyperspace transit gate into the depths of Sector 2026, the station's core terminal must balance three interlocking tachyon containment chambers, labeled Alpha, Beta, and Gamma.

Each chamber sustains a continuous internal flux. Let a , b , and c denote the calibrated drift metrics recorded from chambers Alpha, Beta, and Gamma, respectively.

According to the Ancient Field Theory discovered in Sector 2026, the state space of the gate is governed by a potential function $\Phi(x)$ across a one-dimensional tachyon manifold, defined by:

$$\Phi(x) = (x - a)^2 + (x - b)^2 + (x - c)^2 - (x - a)(x - b) - (x - b)(x - c) - (x - c)(x - a)$$

When the containment apparatus reaches resonance, the system projects an equilibrium field polynomial $P(t)$ described by the convolution:

$$P(t) = (t + a)(t + b)(t + c)$$

To open the gate aperture, the control system requires the fundamental invariant Ω of the manifold. Ancient operational records define this invariant as the coefficient of the quadratic term t^2 in the expansion of $P(t)$.

Given the three readings a , b , and c , compute the exact value of the manifold invariant Ω required to initialize the transit sequence.

Input

The input consists of a single line containing three space-separated integers a , b , and c ($-10^{100} \leq a, b, c \leq 10^{100}$), denoting the recorded drift metrics of chambers Alpha, Beta, and Gamma.

Output

Print a single integer: the value of the manifold invariant Ω .

Constraints

$$-10^{100} \leq a, b, c \leq 10^{100}$$

Standard Input	Standard Output
1 1 1	3