# Problem : The King of Calculus

Most problems have interesting preamble. This one does not.

Find the enclosed area between two given parabolae. There may be no area enclosed.

To find the area between a curve and the x-axis, from $a$ to $b$ for a polynomial of degree 3 or less, you can use Simpson's Rule given below:

$\frac{b-a}{6}(f(a) + 4f(\frac{a+b}{2}) + f(b))$

**Input Specification:**

The input consists of a series of test cases, one per line. Each line has 6 integers. The first three, $A$, $B$, and $C$, are the constants in the expression $Ax^2 + Bx + C$. The next three, $D$, $E$, and $F$, are the constants in the expression $Dx^2 + Ex + F$. None of the 6 integers are greater than 1000 in absolute value. $A$ and $D$ are never equal to 0, so you are guaranteed that these are parabolae.

Input ends on a line containing 6 zeroes. Do not process this case.

**Output Specification:**

For each test case output a single number rounded to two decimal places: the enclosed area between the two parabolae.

**Sample Input:**

```
1 0 0 2 0 0
1 0 -1 -1 0 1
3 0 0 1 0 1
0 0 0 0 0 0
```

**Sample Output:**

```
0.00
2.67
0.94
```

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