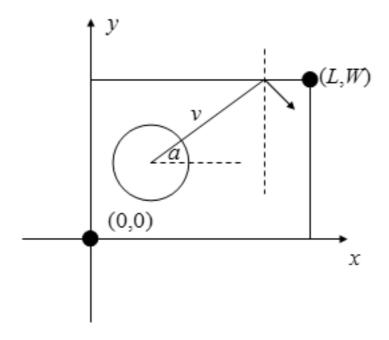
11880 Ball in a Rectangle

Input: Standard Input Output: Standard Output

There is a rectangle on the cartesian plane, with bottom-left corner at (0,0) and top-right corner at (L, W). There is a ball centered at (x, y), with radius=R, shown below



At time 0, the ball starts to move along a ray with polar angle a (the angle from positive x-axis to the ray, rotating counter-clockwise). When hitting the rectangle boundary, the reflex angle always equals to the incidence angle. The ball's velocity is always v (i.e. it never changes when hitting the rectangle). Where is the center of the ball at time s?

Input

There will be at most 25 test cases, each contains a line with 8 integers L,W,x,y,R,a,v,s (100 $\leq L,W \leq$ 109, $1 \leq R \leq 5$, $R \leq x \leq L-R$, $R \leq y \leq W-R$, $0 \leq a < 360$, $1 \leq v$, $s \leq 109$), as stated above. The input terminates with L = W = x = y = R = a = v = s = 0, which should not be processed.

Output

For each test case, output a line containing two floating-point numbers x, y, rounded to two decimal points, indicating that the center of ball will be at (x, y) at time s.

Sample Input

100 100 80 10 5 90 2 23 110 100 70 10 5 180 1 9999 0 0 0 0 0 0 0 0

Sample Output

80.00 56.00 71.00 10.00

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