t = int(input())

bx, by, bz = map(int, input().strip().split())

bvx, bvy, bvz = map(int, input().strip().split())

mx, my, mz = map(int, input().strip().split())

mvx, mvy, mvz = map(int, input().strip().split())

def f(a, b, c, x):

return a \* x \* x + b \* x + c

a = (mvx - bvx) \*\* 2 + (mvy - bvy) \*\* 2 + (mvz - bvz) \*\* 2

b = 2 \* ((bx - mx) \* (bvx - mvx) + (by - my) \* (bvy - mvy) + (bz - mz) \* (bvz - mvz))

c = (bx - mx) \*\* 2 + (my - by) \*\* 2 + (mz - bz) \*\* 2

if b <= 0:

if a == 0:

x = -c / b

if x < t:

ans = min(f(a, b, c, x), f(a, b, c, t))

else:

ans = f(a, b, c, t)

elif b == 0:

ans = c

else:

x = -b / (2 \* a)

if x < t:

ans = min(f(a, b, c, x), f(a, b, c, t))

else:

ans = f(a, b, c, t)

else:

ans = c

ans = ans \*\* .5

print(round(ans,6))