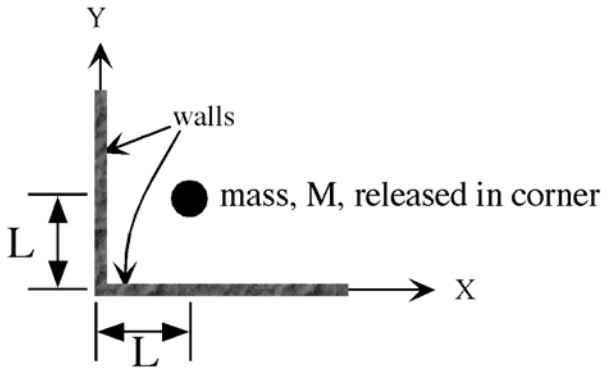
Problem 4.1 - A slug of mass, M, is released instantaneously into the corner of a large, shallow box. The full width and length of the box are $L_X = L_Y = 100L$, and the height of the box is $L_Z = 0.01L$. Every wall of the box is a no-flux boundary. The mass is released a distance L from two adjacent walls, and mid-way between the top and bottom boundary. Assume isotropic diffusion within the box, represented by diffusivity, D.



Describe the concentration field inside the box from t = 0 to $t = L^2/D$.

Hint 1
Hint 2
Hint 3
Hint 4
Solution