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NAME

10.302
Fall 2004
QUIZ
Tuesday, November 23, 2004

With respect to the beverage container described in today's problem, it has been suggested that the rate of loss will be significantly less if a coating is applied to the interior surface of the bottle. The proposed coating has the following characteristics:

$$L \qquad = \qquad 25 \ \mu m$$

$$D \qquad = \qquad 10^{-9} \ m^2/s$$

$$S_{coating/plastic} \qquad = \qquad 0.1$$

1.   Do you recommend that the coating be adapted? Why?

2.   Sketch the new concentration profile on the figure below.

C = 0.25 moles/L

Beer   Coating   Plastic   Air

C = 20 x 10^{-6} moles/L

C = 0