Solution to Problem 1.1

FROM FICK'S LAW (EQ 3 IN CHAP 1)

$$q_z = -DA \frac{\partial c}{\partial z} \approx -DA \frac{C(z=10\,cm) - C(z=0\,cm)}{(10 - 0)\,cm}$$

$$= -\left(10^{-5}\,cm^2 s^{-1}\right)\left(1\,cm^2\right)\left(\frac{0 - 100\,g\,cm^{-3}}{10\,cm}\right)$$

$$= +10^{-4}\,g/s$$

$\uparrow$ "+" Z-DIRECTION IS UPWARD