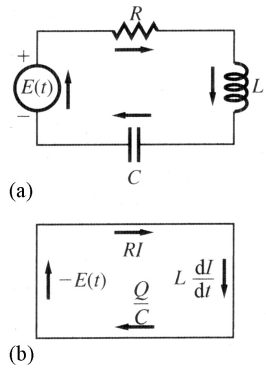

FIGURE 7.1 (a) and (b) A simple *L*-*R*-*C* circuit.

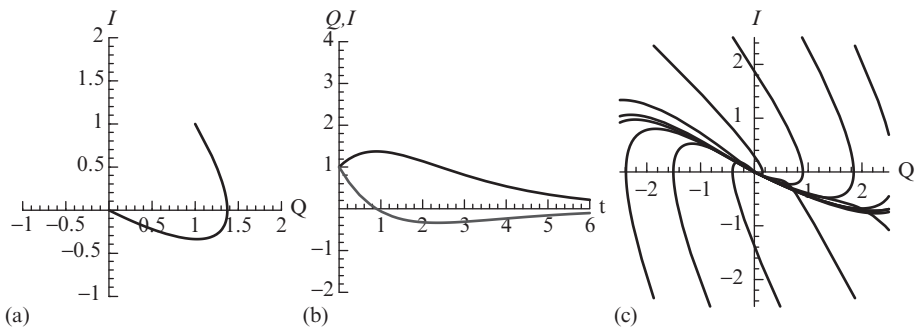

FIGURE 7.2 From left to right, (a)-(c).

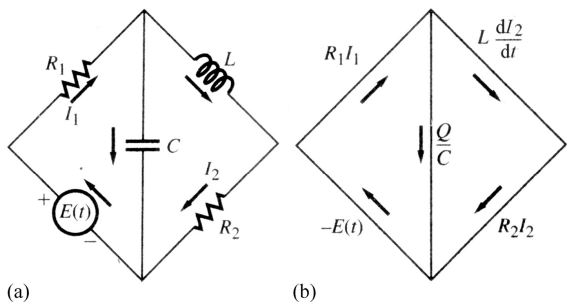

FIGURE 7.3 (a) and (b) A two-loop circuit.

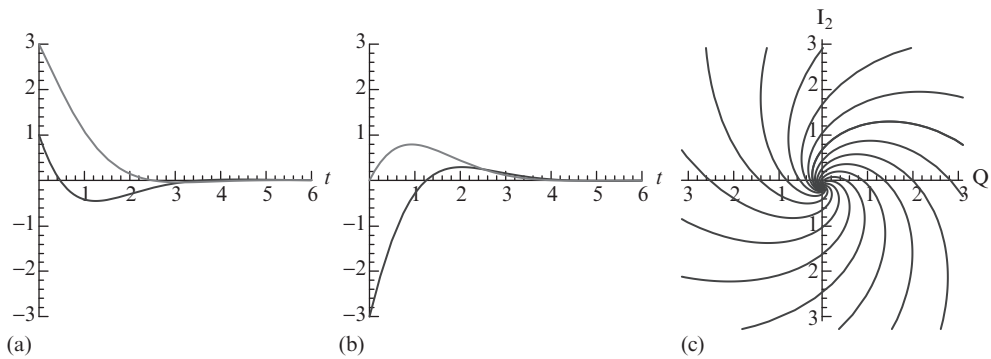

FIGURE 7.4 (a) $Q(t)$ (dark red; dark gray in print versions) and $I_2(t)$. (b) $I(t)$ (dark red; dark gray in print versions) and $I_1(t)$. (c) Parametric plots of solutions that satisfy other initial conditions.

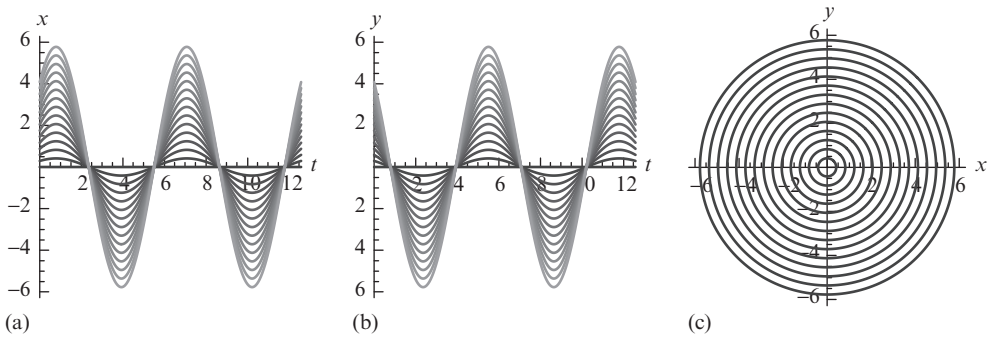

FIGURE 7.5 Graphs associated with Example 7.1.3 (a)-(c).

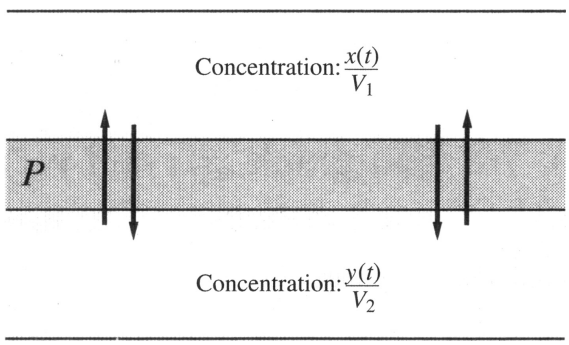

FIGURE 7.6 Two solutions separated by a permeable membrane.

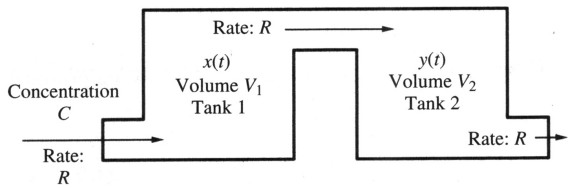

FIGURE 7.7 Illustrating a mixture problem for two interconnected tanks.

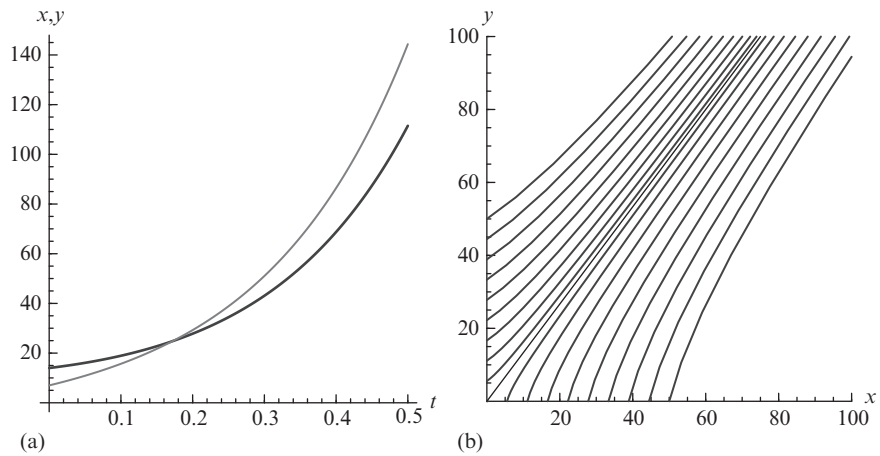

FIGURE 7.8 (a) Identify $x(t)$ and $y(t)$. (b) Various solutions of the system.

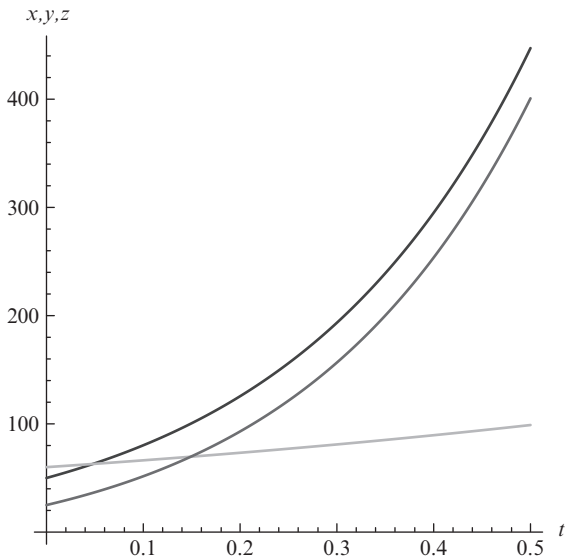

FIGURE 7.9 Identify $x(t)$, $y(t)$, and $z(t)$.

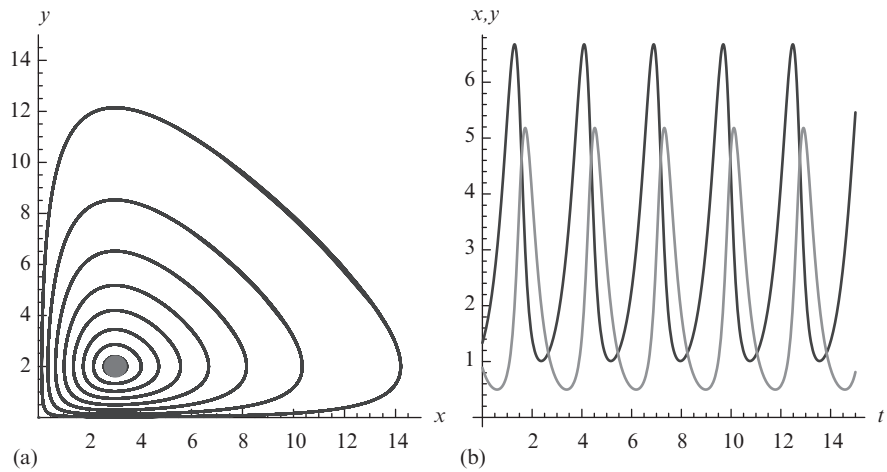

FIGURE 7.10 (a) Typical solutions of the Lotka-Volterra system-x versus y. (b) A typical solution to the Lotka-Volterra system, x (in dark red; dark gray in print versions) and y as functions of t.

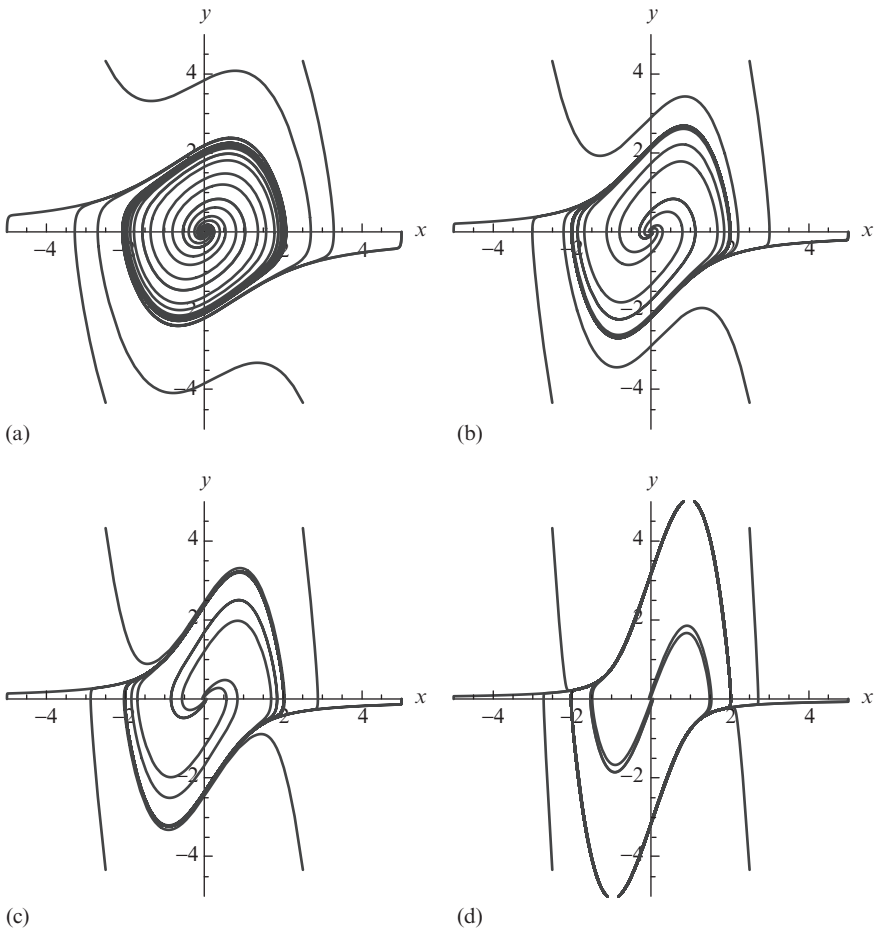

FIGURE 7.11 From left to right, (a) $\mu = 1/2$, (b) $\mu = 1$, (c) $\mu = 3/2$, (d) $\mu = 3$.

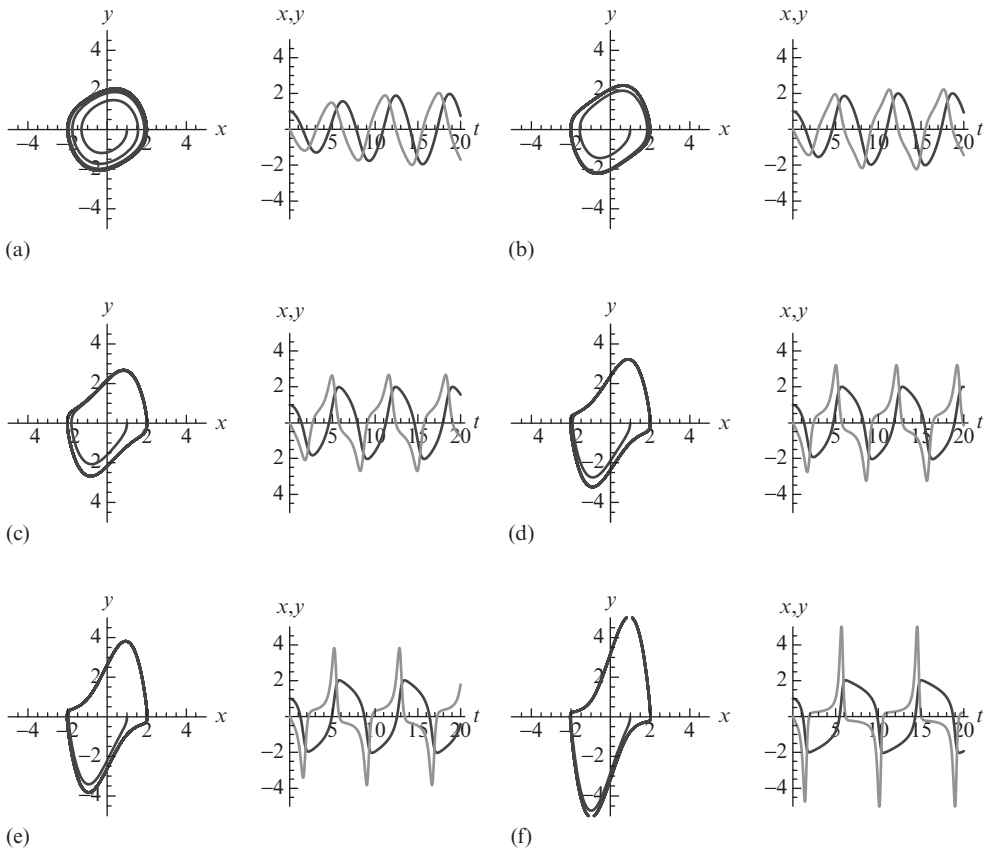

FIGURE 7.12 From left to right, (a) $\mu = 1/4$, (b) $\mu = 1/2$, (c) $\mu = 1$, (d) $\mu = 3/2$, (e) $\mu = 2$, (f) $\mu = 3$.

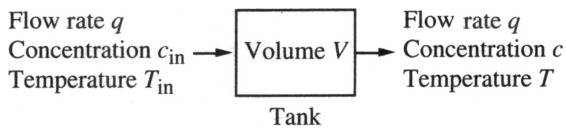

FIGURE 7.13 Continuous-flow stirred tank reactor.

TABLE 7.1 Circuit Elements and Corresponding Voltage Drops

Circuit Element	**Voltage Drop**
Inductor	$L\dfrac{dI}{dt}$
Resistor	RI
Capacitor	$\dfrac{1}{C}Q$
Voltage source	$-E(t)$