

- 6.5 The voltage across a $4\text{-}\mu\text{F}$ capacitor is shown in Fig. 6.45. Find the current waveform.

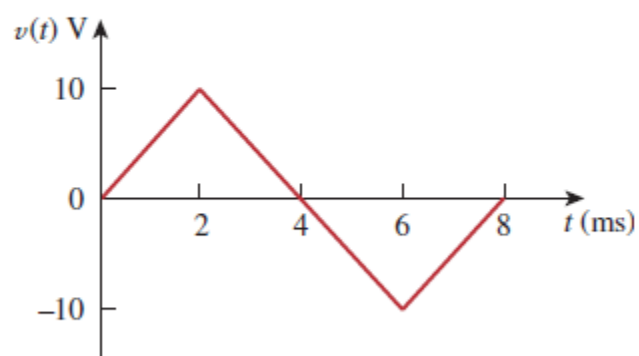


Figure 6.45

For Prob. 6.5.

- 6.13 Find the voltage across the capacitors in the circuit of Fig. 6.49 under dc conditions.

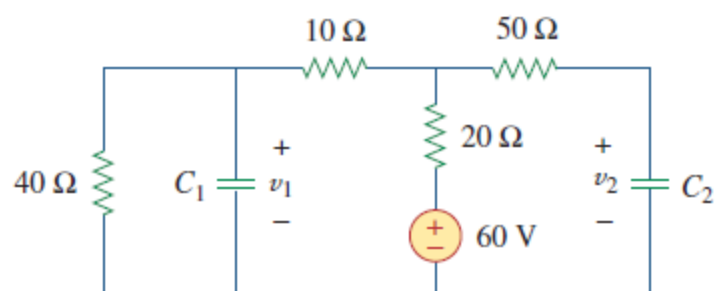


Figure 6.49

For Prob. 6.13.

- 6.45 If the voltage waveform in Fig. 6.68 is applied to a 10-mH inductor, find the inductor current $i(t)$. Assume $i(0) = 0$.

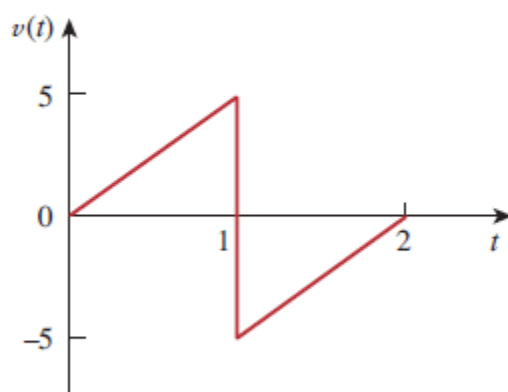


Figure 6.68

For Prob. 6.45.

- 6.48 Under steady-state dc conditions, find i and v in the circuit in Fig. 6.71.

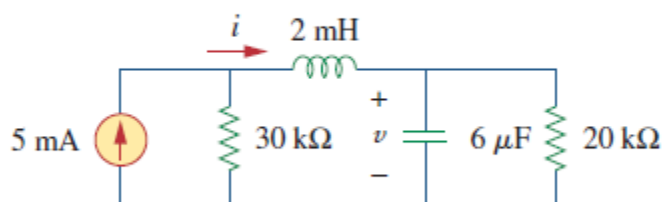


Figure 6.71

For Prob. 6.48.

6.73 Show that the circuit in Fig. 6.90 is a noninverting integrator.

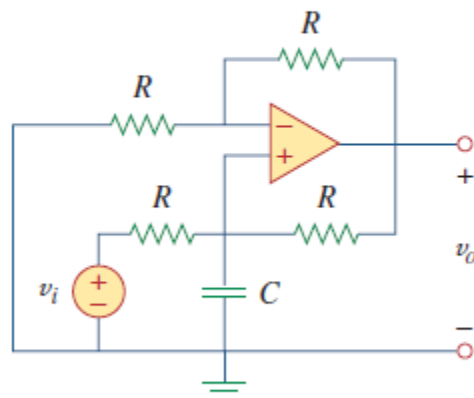


Figure 6.90
For Prob. 6.73.

6.78 Design an analog computer to simulate

ed

$$\frac{d^2 v_o}{dt^2} + 2 \frac{dv_o}{dt} + v_o = 10 \sin 2t$$

where $v_o(0) = 2$ and $v_o'(0) = 0$.

6.80 Figure 6.93 presents an analog computer designed to solve a differential equation. Assuming $f(t)$ is known, set up the equation for $f(t)$.

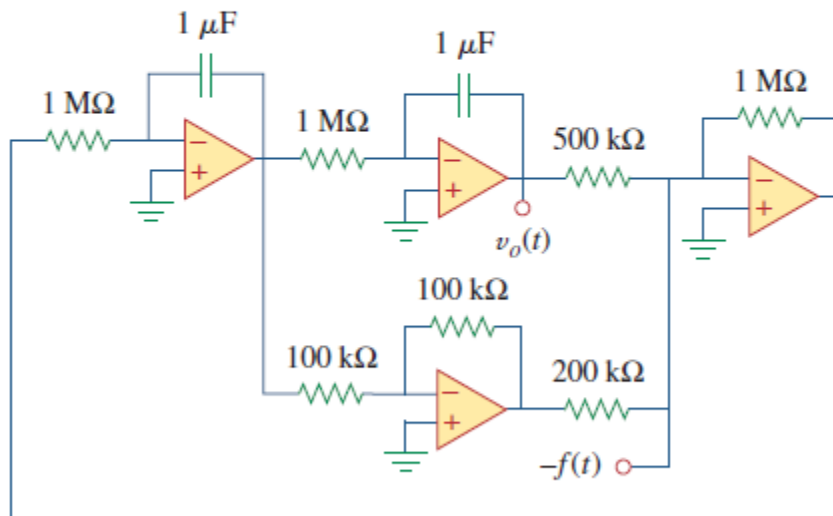


Figure 6.93
For Prob. 6.80.