1. Find $I_x$ in the network in Fig. (Verify by ADS)

2. Determine $I_L$ in the circuit in Fig. (Verify by ADS)

3. Find $I_1$ in the network in Fig. (Verify by ADS)

4. Find $I_1$ in the circuit in Fig.

5. Find $I_1$ in the network in Fig. (Verify by ADS)

6. Find $I_x$, $I_3$, and $I_4$ in the network in Fig.
7. Find $V_1$, $V_2$ and $V_3$ in the network in Fig.

8. Find $V_o$ in the network in Fig. (Verify by ADS)

9. Find $V_o$ in the circuit in Fig.

10. The 10-V source absorbs 2.5 mW of power. Calculate $V_{ba}$ and the power absorbed by the dependent voltage source in Fig. (Verify by ADS)

11. Find $V_1$, $V_2$, and $V_3$ in the network in Fig.

12. Find $V_1$ in the network in Fig.
13. Find the power supplied by each source, including the dependent source, in Fig. (Verify by ADS)

14. Find the power absorbed by the dependent voltage source in the circuit in Fig.

15. Find the power absorbed by the dependent source in the circuit in Fig.

16. Determine $I_L$ in the circuit in Fig. (Verify by ADS)

17. Find the power absorbed by the dependent source in the network in Fig.

18. If $V_2 = 4 \, \text{V}$ in Fig. P2.91, calculate $V_y$. (Verify by ADS)

19. Given $V_o = 12 \, \text{V}$, find the value of $I_A$ in the circuit in Fig.
20. Find the value of $g$ in the network in Fig. such that the power supplied by the 3-A source is 20 W.

\[
\begin{align*}
I_x & = 1 \Omega \\
2 & \Omega
\end{align*}
\]

gI_x

21. Find $V_o$ in the network in Fig. (Verify by ADS)

\[
\begin{align*}
I & = 24 \text{ V} \\
2 & \text{k} \Omega
\end{align*}
\]

22. Find $I_o$ in the circuit in Fig.

\[
\begin{align*}
V_n & = 4 \text{ A} \\
2 & \Omega \\
1 & \Omega
\end{align*}
\]

23. Find $V_o$ in the circuit in Fig.

\[
\begin{align*}
I_S & = 12 \text{ V} \\
3 & \text{k} \Omega
\end{align*}
\]

24. Find $V_x$ in the network in Fig. (Verify by ADS)

\[
\begin{align*}
4 & \text{A} \\
6 & \Omega \\
3 & \Omega \\
2 & \Omega \\
1 & \Omega
\end{align*}
\]

25. A typical transistor amplifier is shown in Fig. Find the amplifier gain $G$ (i.e., the ratio of the output voltage to the input voltage).

\[
\begin{align*}
V_S & = 250 \text{ mV} \\
4 \times 10^6 I_b & \quad 300 \Omega
\end{align*}
\]
26. Given the circuit in Fig, solve for the value of k.

27. Find the value of k in the network in Fig, such that the power supplied by the 6-A source is 108 W.