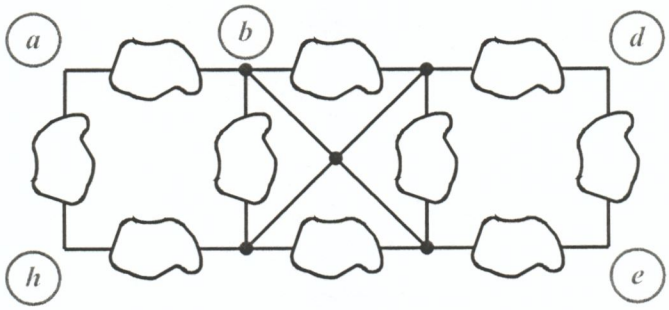
EE 2240

Problem #05



If $V_{ab} = 10\text{ V}$, $V_{ad} = 12\text{ V}$, $V_{ah} = 1\text{ V}$ and $V_{eb} = 3\text{ V}$:

a. Determine V_{ae}.

$$V_{ae} = V_{ab} + V_{be} = V_{ab} - V_{eb} = 10V - 3V = 7V$$

b. Determine V_{bd}.

$$V_{bd} = V_{ba} + V_{ad} = -V_{ab} + V_{ad} = -10V + 12V = 2V$$

c. Determine V_{be}.

$$V_{be} = -V_{eb} = -3V$$

d. Determine V_{dh}.

$$V_{dh} = V_{da} + V_{ah} = -V_{ad} + V_{ah} = -12V + 1V = -11V$$

e. Determine V_{he}.

$$\begin{aligned} V_{he} &= V_{ha} + V_{ab} + V_{be} \\ &= -V_{ah} + V_{ab} - V_{eb} \\ &= -1V + 10V - 3V \\ &= 6V \end{aligned}$$