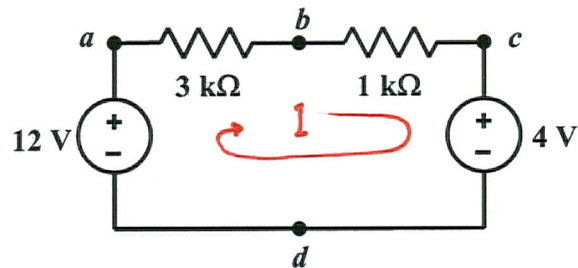


EE/EET 2240
Homework Problem #011

Determine the value of V_{bd} .



$$-12\text{ V} + (3\text{ k}\Omega)I + (1\text{ k}\Omega)I + 4\text{ V} = 0 \quad (KVL)$$

$$\Rightarrow 4000I = 8 \quad \Rightarrow I = 2\text{ mA}$$

$$\therefore V_{bc} = (1\text{ k}\Omega)I = 2\text{ V}$$

$$\text{and } V_{bd} = V_{bc} + 4\text{ V} = 6\text{ V}$$

OR

$$V_{ab} = (3\text{ k}\Omega)I = 6\text{ V}$$

$$\text{and } V_{bd} = 12\text{ V} - V_{ab} = 6\text{ V}$$