

## Homework for Analogue Electronics

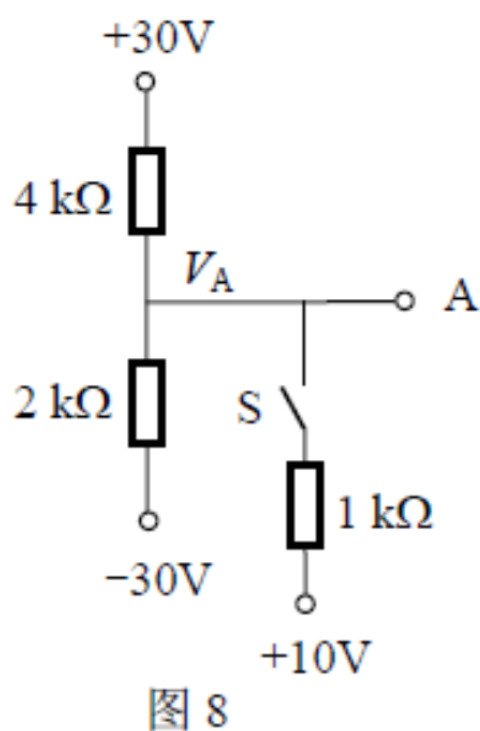
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<http://thehxp.tech/>

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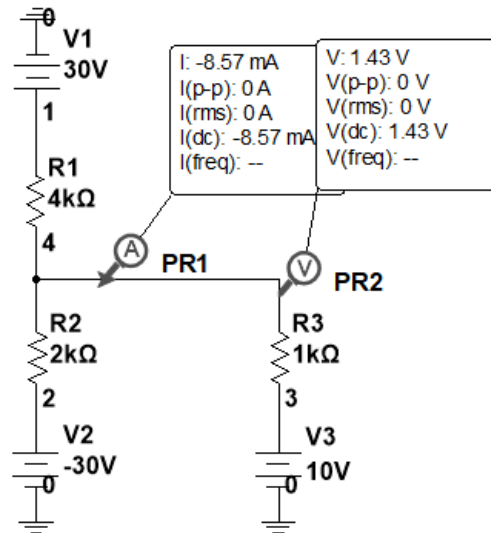
电路如图 8 所示，分别求开关 S 断开和闭合时 A 点的电位。



**Solution** When  $S$  is open

$$V_A = 30 - 4000 \times \frac{60}{6000} = -10 \text{ V}$$

When  $S$  is closed



$$I_{R1} R_1 + (I_{R1} - I_{R3}) R_2 = 60 \text{ V}$$

$$I_{R1} R_1 + I_{R3} R_3 = 20 \text{ V}$$

$$I_{R3} = -8.57 \mu\text{A}$$

$$V_A = 10 \text{ V} + (-8.57 \mu\text{A} \times 1\text{k}\Omega) = 1.43 \text{ V}$$