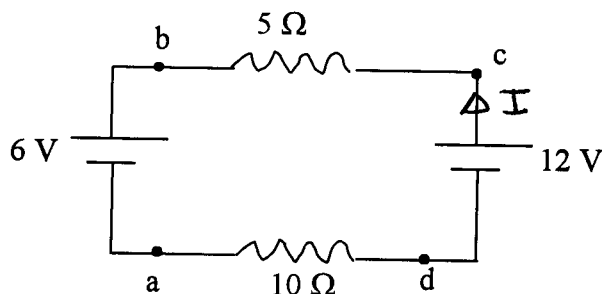


Physics 102Rec
Quiz # 8
Chapter 28

Name: Key Id#: _____ Sect#: _____

Two batteries and two resistors are connected in the single loop circuit shown in the Figure. Given that the potential at point **d** equals zero, determine the potentials at points **a**, **b**, and **c**.



Kirchhoff's rule

$$\Rightarrow 12 - 5I - 6 - 10I = 0$$

$$\Rightarrow 6 = 15I \Rightarrow I = 0.4 \text{ A}$$

$$V_c - V_d = 12 \Rightarrow \boxed{V_c = 12 \text{ V}}$$

$$V_b - V_c = -5I = -2 \text{ V} \Rightarrow V_b = V_c - 2 = 12 - 2$$
$$\Rightarrow \boxed{V_b = 10 \text{ V}}$$

$$V_a - V_b = -6 \text{ V} \Rightarrow V_a = -6 + V_b = -6 + 10$$
$$\Rightarrow \boxed{V_a = 4 \text{ V}}$$