

Junction Rule!  
 $I_1 = I_2 + I_3$

Loop A:  
 Clockwise

$$15V - 2I_2 + 12V = 0$$

$$I_2 = \frac{27}{2} A = 13.5 A$$

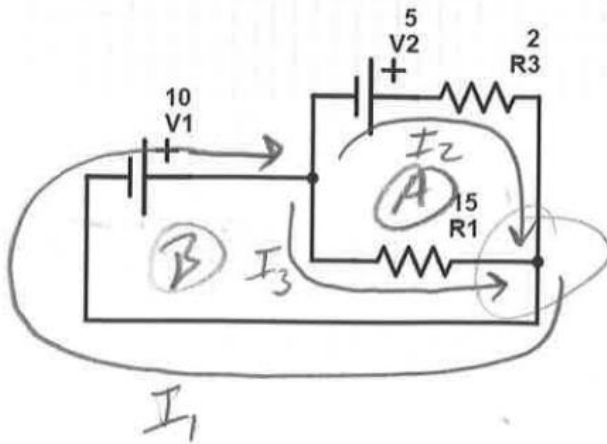
Loop B:  
 (CCWwise)

$$12V + 50I_3 - 2I_2 = 0$$

$$50I_3 = 15V$$

$$I_3 = \frac{15}{50} A = 0.3 A$$

$$I_1 = \frac{27}{2} A + \frac{15}{50} A = 13.8 A$$



Junction:

$$I_1 = I_2 + I_3$$

$$10V - 15I_3 = 0$$

$$5V - 2I_2 + 15I_3 = 0$$

Loop B (cw)

Loop A (cw)

$$I_3 = \frac{10}{15} A = \frac{2}{3} A = 0.67 A$$

$$I_2 = 7.5 A$$

$$I_1 = 8.17 A$$