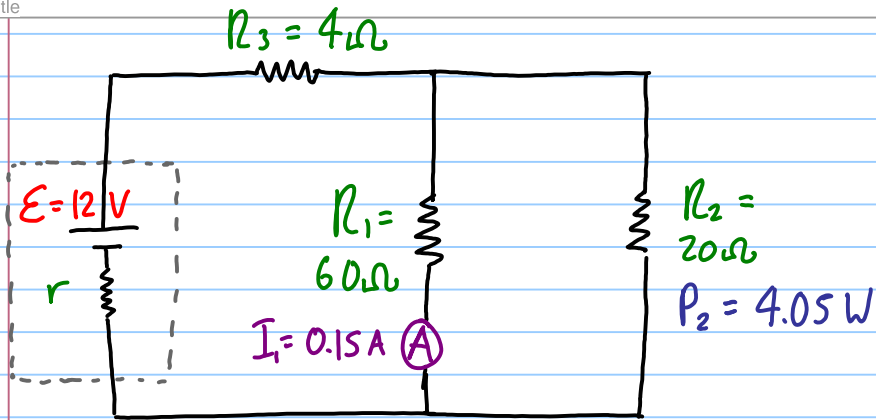


Quiz 5c

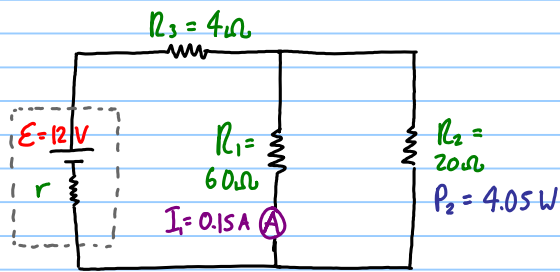
Note Title

09/05/2011



Find:

- The total current
- The internal resistance
- The terminal voltage



Find:

- The total current
- The internal resistance
- The terminal voltage

$$a) P_2 = I_2^2 R_2 \quad I_2 = \sqrt{\frac{P_2}{R_2}} = 0.45 A \quad \checkmark$$

$$I_T = I_1 + I_2 = 0.60 A \quad \checkmark$$

$$b) E = I_T R_T \quad R_T = \frac{E}{I_T} = \frac{12V}{0.6A} = 20 \Omega \quad \checkmark$$

$$R_p = (R_1^{-1} + R_2^{-1})^{-1} = (20^{-1} + 60^{-1})^{-1} = 15 \Omega$$

$$r = R_T - R_p - R_3 = 1 \Omega \quad \checkmark$$

$$c) V_{T \text{ term}} = E - I r = 12V - (0.6A)(1\Omega) = 11.4V \quad \checkmark$$