

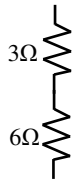
A little more about units: You know that m/s means meters every second. It also means meters divided by seconds. The units tell you the formula. Likewise, momentum is kgm/s , meaning multiple kg times meters and divide by seconds OR $m(d)/t = mv = p$. Also, $6 m/s$ can also be written as $1sec/6m$, if you need seconds on the top. The units will guide you... always.

1. * Convert $560W$ to kW .
2. A. * A resistor hooked up to $120V$ has $16A$ flowing thru it. How many kW does it use?

B. If the resistor is on for 30 minutes, how many hours is it on for?

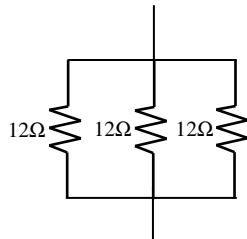
C. * How many $kWhr$ does it use?
3. * An electric company sells electricity for 12 cents per $kWhr$, how much does it cost for $118kWhr$?
4. * A $800W$ oven cooks a turkey in 4.5 hours. If the electric company charges 13 cents per $kWhr$, how much does it cost for a $800W$ oven to roast a turkey for 4.5 hours?
5. Using your "Total Resistance" notes, decide if the following are in parallel or series and calculate the equivalent resistance.

A. Parallel or series?



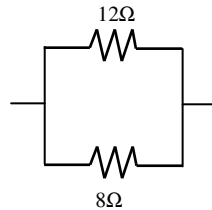
$R_t = \underline{\hspace{2cm}}$

B. Parallel or series?



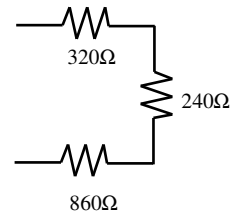
* $R_t = \underline{\hspace{2cm}}$

C. Parallel or series?



* $R_t = \underline{\hspace{2cm}}$

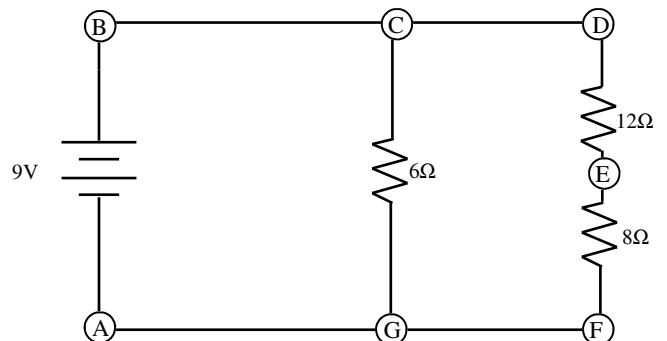
D. Parallel or series?



$R_t = \underline{\hspace{2cm}}$

6. Work the following circuit and answer the questions. (Follow the same procedure as the circuit on the last homework. As a result I am not going to give help with this circuit.)

- A. What is the total current of the circuit?
- B. What is the total resistance of the circuit?
- C. What is the total power given by the battery?
- D. What is the voltage at point E?



Q1: 0.56 kW (remember that 1000 m = 1 km)

Q2A: $P = VI$, so $P = 1.92 \text{ kW}$

Q2C: 0.96kW

Q3: 1416 cents = \$14.16

Q4: convert 800W to 0.8kW first. Final answer = 47¢

Q5B: 4Ω ($12/3$. 3 = holes is 3 times the current = $1/3$ the resistance)

Q5C: have to use $1/R_t = 1/R_1 + 1/R_2 \dots$ $R_t = 4.8\Omega$