## Physics 112 **Quiz #16** October 27, 2000

Name:
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## IF YOU WANT A QUESTION GRADED OUT OF THREE POINTS (-1 [MINUS ONE] FOR WRONG ANSWER!!) WRITE "3" IN SPACE PROVIDED ON EACH QUESTION.

- In a parallel circuit, a three-ohm resistor and a six-ohm resistor are connected to a battery. In a series circuit, a fourohm and an eight-ohm resistor are connected to a battery that has the same voltage as the battery in the parallel circuit. What will be the ratio of the current through the six-ohm resistor to the current through the four-ohm resistor? Current through six-ohm resistor divided by current through four-ohm resistor is:
  - A. greater than one
  - B. equal to one
  - C. less than one
  - D. equal to negative one
  - E. cannot determine without knowing the battery voltage

Grade out of 3? Write "3" here: \_\_\_\_\_

Parallel circuit:  $R_A = 6 \Omega$ ;  $R_B = 9 \Omega$ . 2.

Series circuit:  $R_C = 7 \Omega$ ;  $R_D = 3 \Omega$ .

 $\Delta V_{bat}(series) = \Delta V_{bat}(parallel)$ 

- A.  $\frac{I_B}{I_C} > 1$  B.  $\frac{I_B}{I_C} = 1$  C.  $\frac{I_B}{I_C} < 1$  D.  $\frac{I_B}{I_C} = -1$  E. need  $\Delta V_{bat}$

Grade out of 3? Write "3" here:

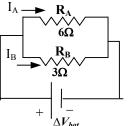
3. The arrows represent the magnitude and direction of the current through resistors A and C. Choose the correct diagram.

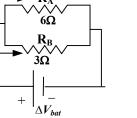
A.

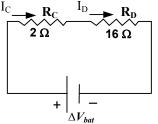
- B.
- C.
- D.

E. need to know  $\Delta V_{bat}$ 

Grade out of 3? Write "3" here:





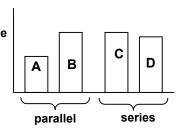


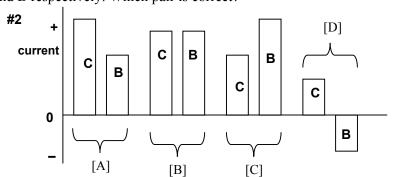
(need to know  $\Delta V_{bat}$ )

4. Graph #1 represents the relative resistances of resistors A, B, C, and D. Resistors A and B are connected in a parallel circuit. Resistors C and D are connected in a series circuit. The battery voltage in both circuits is the same. Graph #2 represents the currents in resistors C and B respectively. Which pair is correct?

A. B. resistance C. D.

E. need to know voltage





Grade out of 3? Write "3" here