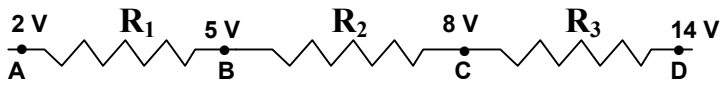
Physics 112
Quiz #11
October 4, 1999

Name: _____

A section of a circuit is shown below; there is a steady flow of current in this circuit. The potential is indicated at the points A, B, C and D. All four questions refer to this diagram.



1. If x coulombs of charge flow past point B each second, then how many coulombs of charge flow past point C each second?

   A. x coulombs.
   B. More than x coulombs.
   C. Less than x coulombs, but not zero.
   D. Could be more or less than x coulombs, depending on what the rest of the circuit looks like.
   E. zero coulombs.

2. Which of the following is the correct ranking of the resistances?

   A. $R_1 > R_2 > R_3$
   B. $R_1 > R_2 = R_3$
   C. $R_1 = R_2 > R_3$
   D. $R_3 > R_2 > R_1$
   E. $R_3 = R_2 > R_1$
   F. $R_3 > R_2 = R_1$

3. If R_3 is a 3-ohm resistor, then how much current is flowing past point B?

   A. 1 A
   B. 2 A
   C. 3 A
   D. 4 A
   E. 5 A
   F. 6 A
   G. 8 A
   H. 9 A
   I. There is not enough information to determine the current flowing past point C.

4. At which point in this segment would the moving charges have the ***smallest*** potential energy?

   A. Point A.
   B. Point B.
   C. Point C.
   D. Point D.
   E. They would have the same potential energy at all four points.
   F. There is not enough information to answer this question.