

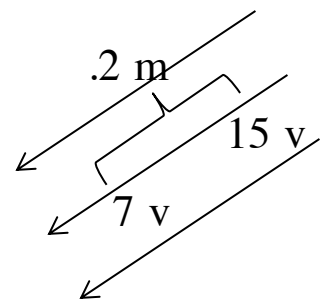
Name: \_\_\_\_\_

### HONORS PHYSICS – ELECTRICAL POTENTIALS QUIZ 3

Directions: This is a closed notes, closed book quiz. Show work, box answers and do well!

- 1.) An electrical potential magnitude at a point is identified as 7. What does the number actually tell you? (I was very specific in class as to what to say to a question like this—use the appropriate language).
- 2.) What *are* electrical potentials?
- 3.) The electrical potential at a point is numerically equal to 7 volts.
  - a.) If a -5 C charge is put at the point, how much potential energy (U) will it have?
  - b.) A -3 C charge moves from that point to a point where the electrical potential is 15 volt? How much *work per unit charge* is available between the points?
  - c.) How much *work* will the field do on the charge as it moves from the one point to the other?
  - d.) If the charge in Part b started from rest, how fast would it be moving by the time it reached the second point if it's mass was .3 kg?

- e.) If the distance between the 7 volt and 15 volts points was .2 meters, how big was the electric field between the points? (Show the equation used first.)



- f.) Draw an equipotential line on the sketch.

Extra Credit: How can you determine the direction of the *electric potential* vector at a point?