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?