Physics 132 Spring 2017

Quiz #5 (10 points)

1. (3 points) When a positive test charge is released from rest near a fixed negative source charge, what happens to the electric potential felt by the positive test charge, only taking into account the force from the source charge)?

- A. It will increase because the charge will move in the direction of the electric field.
- B. It will increase because the charge will move in the direction opposite to the electric field.
- C. It will decrease because the charge will move in the direction opposite to the electric field.
- D. It will decrease because the charge will move in the direction of the electric field.
- E. It will remain constant because the electric field is uniform.

2. (3 points) When a negative test charge is released from rest near a fixed negative source charge, what happens to the electric potential felt by the negative test charge, only taking into account the force from the source charge)?

- A. It will increase because the charge will move in the direction of the electric field.
- B. It will increase because the charge will move in the direction opposite to the electric field.
- C. It will decrease because the charge will move in the direction opposite to the electric field.
- D. It will decrease because the charge will move in the direction of the electric field.
- E. It will remain constant because the electric field is uniform.

3. (2 points) In the figure at the right is shown an approximate model for two line charges. Slices through the equipotential surfaces are shown and some are marked with their voltage (+35 to -35 in steps of 5 with 0 being the vertical line up the middle of the diagram). If a test charge were placed at one of the points marked A, B, and C, where would it feel the strongest electric force from all the model charges in the two lines?

- A. A
- B. B
- C. C D. A and C
- E. Something else.

4. (2 points) In the figure below are shown two charges with three measurements of the electric fields they produce. One is a

point charge (P) and the other is a very long uniformly charged line (L) that is perpendicular to the plane of the page. Which is which? (Put P or L)

0 0 0 0 0 Θ 0 0 0 0 0 0 0 0



A =
B =



