



Electricity and Magnetism / Set 1 / Animation 1

Name \_\_\_\_\_ Class \_\_\_\_\_

<Show all work on calculations. Include proper units. Explanations require complete sentences.>

- 1) Use the red test charge to determine the sign of the unknown charge in each animation.

Charge 1 \_\_\_\_\_ Charge 2 \_\_\_\_\_ Charge 3 \_\_\_\_\_

- 2) The small red positive test charge begins at the same distance from the center of the unknown charge in each animation. State the direction the test charge would move if released in each animation.

Charge 1 \_\_\_\_\_ Charge 2 \_\_\_\_\_ Charge 3 \_\_\_\_\_

- 3) In which situation would the test charge undergo the greatest acceleration? the least acceleration?

- 4) Describe where a small positive charge would need to be placed to have the greatest amount of potential energy in all three cases.

- 5) Look at the three graphs below the animations. Charges have an electric field in which the electric potential can be graphed. Draw a line to match each graph with the correct electric charge.

Graph A

Charge 1

Graph B

Charge 2

Graph C

Charge 3