## The Electrostatic Force

## Practice Your Understanding

Name:	
Date:	

1. Using the Coulomb's Law simulation, set the position of particle 1 to be 15 m away from the origin, and the position of particle 2 to be -22 m away from the origin. Choose the charge of the first particle to be 7 C, and the charge of the second particle to be -9 C. What is the resultant force calculated in the simulation? What is the sign of the force calculated in the simulation? What determines the sign of the force? Is this a large force or a small force? Record your observations and answers in the box below.

2. Now repeat question 1 choosing a smaller distance between the particles, and have the particles have the same sign of charge. What is the resultant force calculated in the simulation? What is the sign of the force calculated in the simulation? What determines the sign of the force? Is this a large force or a small force? Record your observations and answers in the box below.

3. You will now go to the Programming Exercises Coulomb's Law Graph and plot the electrostatic force vs. the distance between the particles. What is the curve of the graph? Is it linear? Parabolic? What can you understand from the graphical trend relating the electrostatic force with the distance? Record your answer in the box below.