

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

Date: \_\_\_\_\_

Period: \_\_\_\_\_

## Electric Field due to Multiple Charges

A charge of  $q_1 = +40 \text{ nC}$  sits 5 mm away from a charge of  $q_2 = -50 \text{ nC}$ . (*Hint:*  $1 \text{ nC} = 10^{-9} \text{ C}$ )

- (a) Draw the electric field lines.
- (b) What is the magnitude and direction of the electric field halfway between the two charges?
- (c) What is the magnitude and direction of the electric field at  $x = 8 \text{ mm}$ ?

