68. Regarding the forces on \( q_3 \) exerted by \( q_1 \) and \( q_2 \), one must “push” and the other must “pull” in order that the net force is zero; hence, \( q_1 \) and \( q_2 \) have opposite signs. For individual forces to cancel, their magnitudes must be equal:

\[
k \frac{|q_1| \, ||q_3||}{(L_{12} + L_{23})^2} = k \frac{|q_2| \, ||q_3||}{(L_{23})^2}.
\]

With \( L_{23} = 2.00L_{12} \), the above expression simplifies to \( \frac{|q_1|}{9} = \frac{|q_2|}{4} \). Therefore, \( q_1 = -9q_2 / 4 \), or \( q_1 / q_2 = -2.25 \).