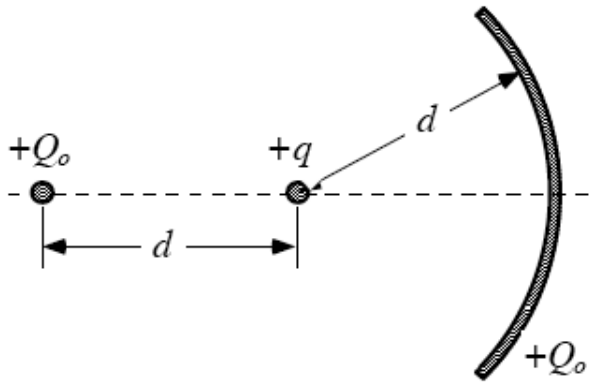
A charge $+q$ lies a distance d from a charge $+Q_o$. An insulating curved charged rod with charge $+Q_o$ uniformly distributed is positioned as shown. All points of the curved rod are also a distance d from $+q$. Consider the following statements made by three students:



Anita: *"The charges that are exerting forces on +q are both the same distance away, and the same charge. So from Coulomb's law, the forces have the same magnitude. Since they are in opposite directions, the net force on +q is zero."*

Banji: *"The net electric force on +q is to the right. The test charge is perpendicular to the middle of the rod. Therefore, the force from the bottom half of the rod cancels the force from the top half, and you are left with a repellant horizontal force from the charge on the left."*

Christina: *"It is only the vertical components of the forces due to the charge on the rod that cancel out. The horizontal components all act to produce a force on +q to the left. So, there is still a charge $+Q_o$ producing a horizontal force to the left, just as there is a charge $+Q_o$ to the left of +q producing a force to the right. The net force on +q is zero."*

Which of these students is correct?