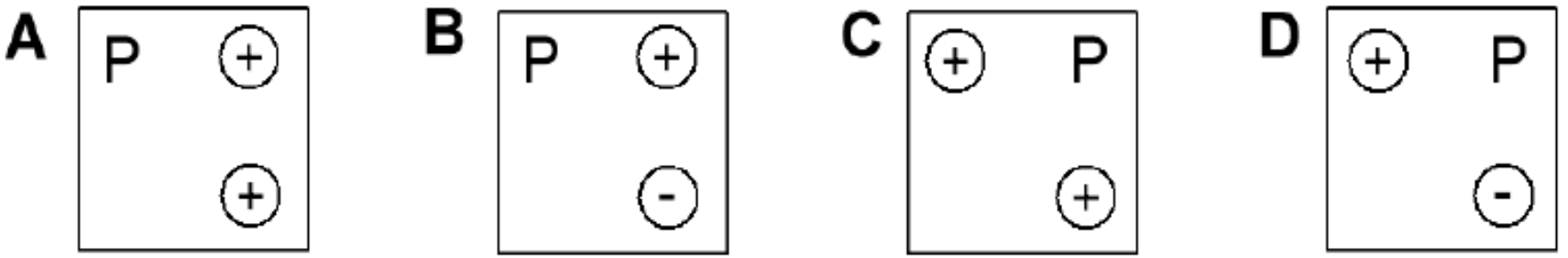
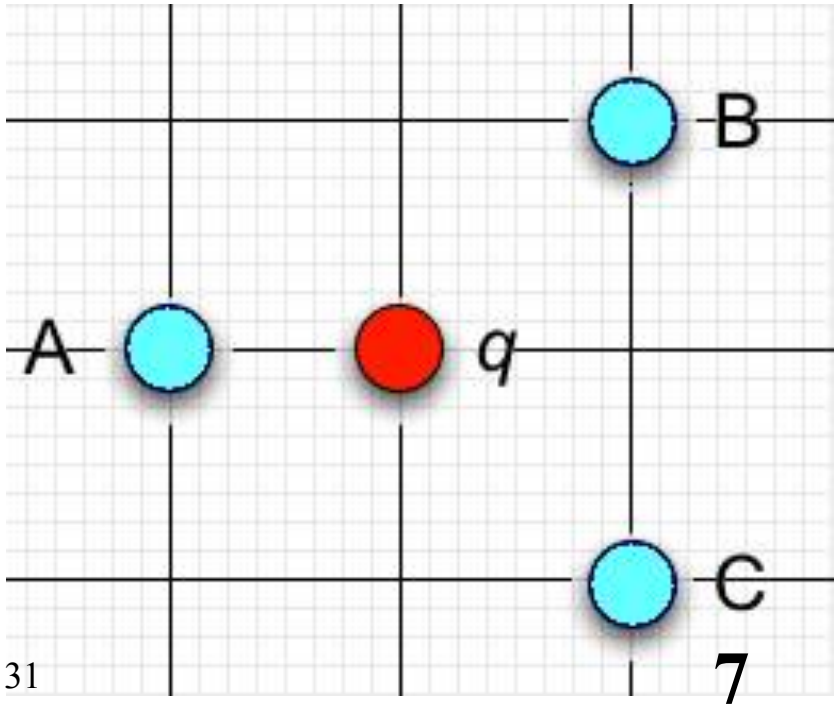
In the figure below are shown four two-dimensional arrangements of charge. Each of the charges has the same magnitude, but some are positive and some are negative. In each diagram a point is labeled "P".

In which diagram is the force felt by a positive test charge placed at P the larges?



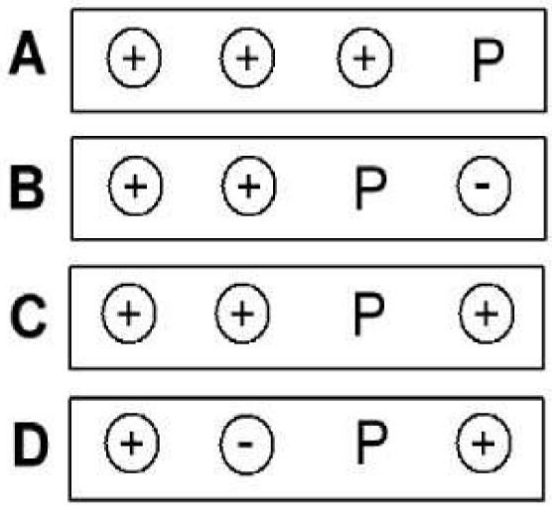
A test charge (labeled *q*) is placed in a situation in which it feels the electrical force from three other charges (of opposite sign to it) labeled A, B, and C. (The charges are on a uniform grid as shown and the positions are to scale.)
Which of the following combinations of forces has the greatest magnitude?

1. $\vec{F}_{A\to q}$
2. $\vec{F}_{B\to q} + \vec{F}_{C\to q}$
3. $\vec{F}_{A\to q} + \vec{F}_{B\to q} + \vec{F}_{C\to q}$
4. There is not enough information to tell.



In the figure are shown four arrangements of charge. Each charge has the same magnitude, but some are + and some are -. All distances are to the same scale.
If the positive test charge, P, is replaced by a negative one, what happens to the direction of the **electric force** it feels?

1. The force stays the same
2. The force reverses
3. The force changes magnitude
4. You can't tell.



In the figure are shown four arrangements of charge. Each charge has the same magnitude, but some are + and some are -. All distances are to the same scale.
If the positive test charge, P, is replaced by a negative one, what happens to the direction of the **electric field** it measures?

1. The force stays the same
2. The force reverses
3. The force changes magnitude
4. You can't tell.