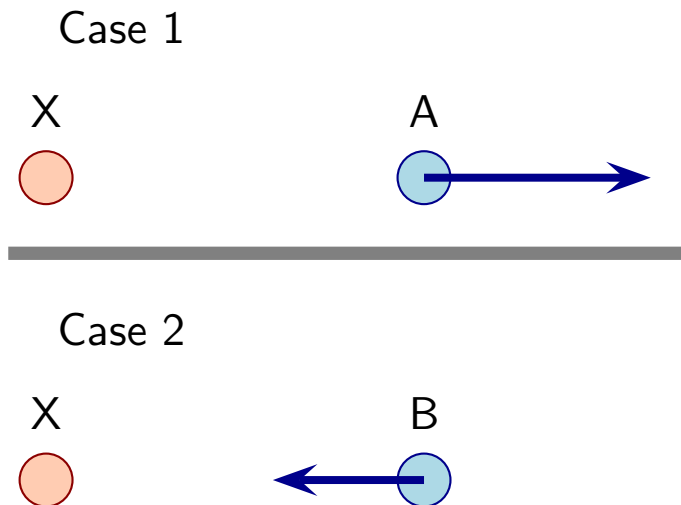


# Question 1

Two identical subatomic particles, labeled X, are separately placed near to two different particles, labeled A and B. The forces exerted by X on either A or B are as illustrated.



Which of the following is true?

1. The charge of X is the same in both cases.
2. The charge of X in case 1 is opposite to that of X in case 2.
3. The charge of X is larger in case 1 than in case 2.
4. The charge of X is smaller in case 1 than in case 2.

## Question 2

An *isolated* particle has charge  $+16\text{ C}$ . Consider the following statements:

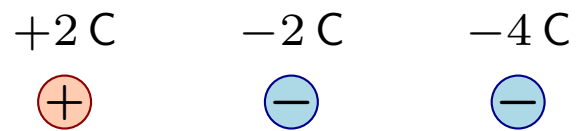
- A) The particle *always* exerts a force of  $16\text{ N}$  but can feel a force of *any* size.
- B) The particle *always* feels a force of  $16\text{ N}$  but can exert a force of *any* size.
- C) The particle *always* exerts a force of  $16\text{ N}$  and *always* feels a force of  $16\text{ N}$ .

Which of the statements are true?





- 1. Only A.
- 2. Only B.
- 3. Only C.
- 4. None of them.

## Question 3

Three charges are aligned as illustrated.



Which of the following gives the direction of the net force exerted on the charge at the right?

1. 
2. 
3. 
4. 
5. Zero net force.