## Lecture 2: Coulomb's Law

Example

Practice

## Example: Adding electrical forces in two dimensions

$$q_1 = -50 \text{ nC} \longleftrightarrow 10.0 \text{ cm}$$

$$q_2 = +50 \text{ nC}$$

$$+ \uparrow$$

$$q_3 = +30 \text{ nC} \longleftrightarrow$$

$$q_3 = +30 \text{ nC} \longleftrightarrow$$

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## Procedure: electrical forces in two dimensions

- 1. Diagram. Draw force vectors.
- 2. Find magnitude for each force vector, using Coulomb's Law
- 3. Find the x- and y- components of each force
- 4. Add the *x*-components. Add the *y*-components
- 5. Check against the diagram.

(a)  $q_1$  is negative and  $q_3$  positive, so the force is attractive.

