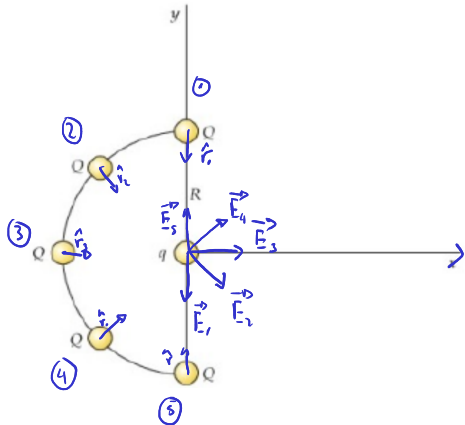


### Bost karga

Bost karga, denak  $Q$  balioa dutenak, zirkuluerdi baten hainbat puntutan jartzen dira, marrazkian ageri den bezala (bi karga  $\pm 45^\circ$ -tan daude).

- Kalkula ezazu eremu elektrikoa  $q$  karga dagoen puntuan.
- $q$  karga dagoen puntuko potentzial elektrikoa kalkulatu.
- Zer indar du  $q$  kargak?



$Q, R$

$E?$

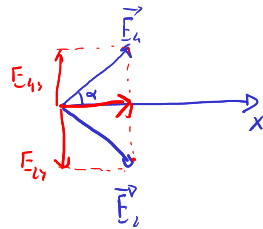
$$a) \vec{E}_i = \frac{kQ}{r_i^2} \hat{r}_i$$

$$r_i = R$$

$$\vec{E}_i = \frac{kQ}{R^2} \hat{r}_i$$

$$\vec{E}_1 + \vec{E}_5 = 0$$

$$E_{2y} + E_{4y} = 0$$



$$\vec{E}_3 = \frac{kQ}{R^2} \hat{z}$$

$$E_{4x} = \frac{kQ}{R^2} \cdot \cos \alpha$$

$$E_{4x} = \frac{kQ}{\sqrt{2}R^2} = E_{2x}$$

$$\vec{E} = \left( \frac{kQ}{R^2} + \frac{kQ}{\sqrt{2}R^2} + \frac{kQ}{\sqrt{2}R^2} \right) \hat{z} = \frac{kQ}{R^2} (1 + \sqrt{2}) \hat{z}$$

$$\vec{F} = 2.41 \frac{kQq}{R^2} \hat{z}$$

$$b) V_i = \frac{kQ}{r_i}$$

$$r_i = R$$

$$V = 5 \frac{kQ}{R}$$

$$c) \vec{F} = q \vec{E}$$

$$\vec{F} = 2.41 \frac{kQq}{R^2} \hat{z}$$