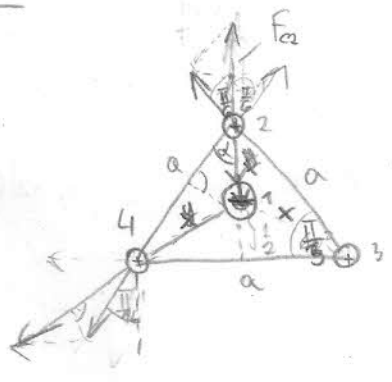


14.4



$$h = \frac{a\sqrt{3}}{2}$$

$$x = \frac{a\sqrt{3}}{4}$$

$$\cos \frac{\pi}{6} \approx 0,87$$

$$\cos \frac{\pi}{3} = \frac{\sqrt{3}}{2}$$

$$\cos \frac{\pi}{6} = \frac{1}{2}$$

$$F_{c2} = \frac{1}{4\pi\epsilon_0\epsilon_r} \cdot \frac{q^2}{a^2} \cdot \cos \frac{\pi}{6} \cdot 2$$

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$$\frac{1}{4\pi\epsilon_0\epsilon_r} \frac{Q \cdot q}{x^2} = \frac{1}{4\pi\epsilon_0\epsilon_r} \cdot \frac{q^2}{a^2} \cdot (\cos \frac{\pi}{6}) \cdot 2$$

$$\frac{1}{4\pi\epsilon_0\epsilon_r} \cdot \frac{Q \cdot q}{y^2} = \frac{1}{4\pi\epsilon_0\epsilon_r} \cdot \frac{q^2}{a^2} \cdot 2$$

$$\frac{1}{2} \frac{a}{x} = \cos \frac{\pi}{6} \cdot 2$$

$$x = \frac{a}{2 \cdot \cos \frac{\pi}{6}} = \frac{q}{2} \cdot \frac{\sqrt{3}}{2} \cdot 2$$

$$x = \frac{a}{2 \cdot \frac{\sqrt{3}}{2}} = \frac{a}{\sqrt{3}}$$

$$Q = \frac{\sqrt{3}}{3} \cdot q = \frac{1}{\sqrt{3}} \cdot q$$

$$Q = \frac{\sqrt{3}}{3} \cdot q \quad \text{O.K}$$

$$y^2 = x^2 + (\frac{1}{2}a)^2$$

$$\frac{1}{4\pi\epsilon_0\epsilon_r} \cdot \frac{Q \cdot q}{y^2} = \frac{1}{4\pi\epsilon_0\epsilon_r} \cdot \frac{q^2}{a^2} \cdot (\cos \frac{\pi}{6}) \cdot 2$$

$$\frac{Q \cdot q^2}{x^2} = \frac{q^2}{a^2} \cdot \frac{\sqrt{3}}{2} \cdot 2$$

$$\frac{Q \cdot \sqrt{3}}{a^2} = \frac{q^2}{a^2} \cdot \sqrt{3} / a^2$$

$$3 \cdot Q = q^2 \cdot \sqrt{3}$$

$$Q = \frac{\sqrt{3}}{3} \cdot q$$

$$\frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$$

$$\frac{\sqrt{3}}{\sqrt{3}} = 1$$