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DATI

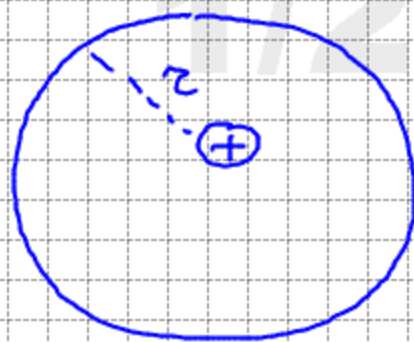
$$r = 80 \text{ cm}$$

$$B = 0,5 \text{ T}$$

$$T = ?$$

$$v = ?$$

$$K = ?$$



$$\vec{F}_L = \vec{v} \times \vec{B} \cdot Q \Rightarrow \alpha = 90$$

$$F_L = v B Q$$

$$F_C = m \frac{v^2}{r}$$

$$F_L = F_C$$

$$v B Q = m \frac{v^2}{r}$$

$$v = \frac{B Q r}{m} = \left[\frac{0,5 \cdot 0,8 \cdot 1,6 \cdot 10^{-19}}{1,7 \cdot 10^{-27}} \right] \frac{\text{m}}{\text{s}} = 3,8 \cdot 10^7 \frac{\text{m}}{\text{s}}$$

$$v = \frac{s}{T}$$

$$T = \frac{s}{v} = \frac{2\pi r}{v} = \left[\frac{2\pi \cdot 0,8}{3,8 \cdot 10^7} \right] \text{s} = 1,3 \cdot 10^{-7} \text{ s}$$

$$K = \frac{1}{2} m v^2$$

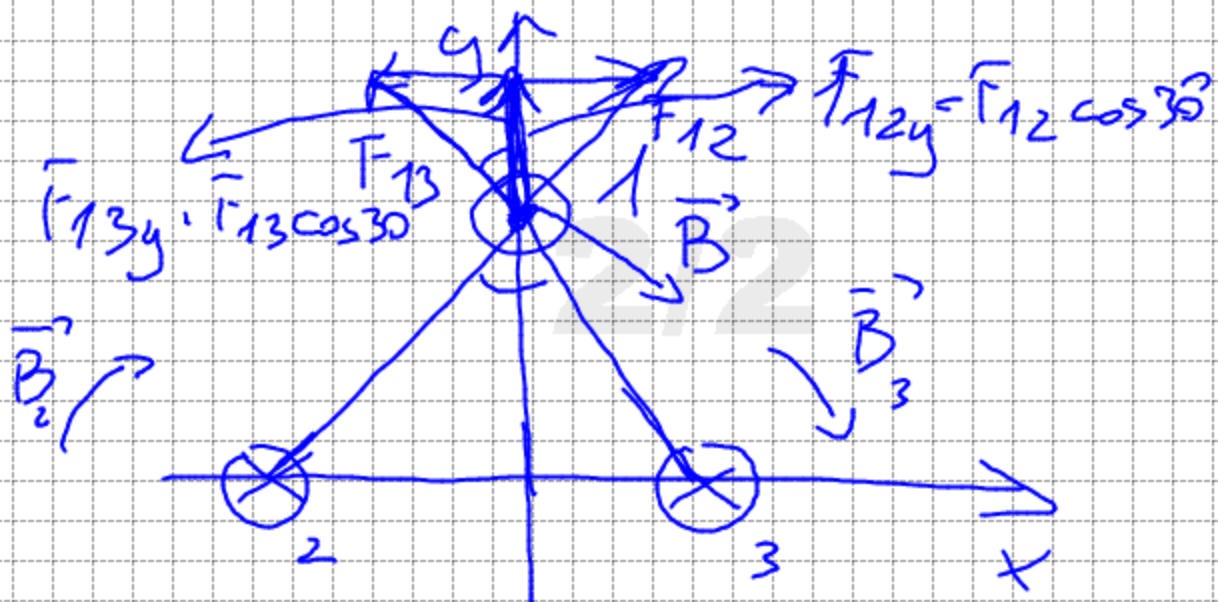
$$K = \left[\frac{1,7 \cdot 10^{-27} \cdot (3,8 \cdot 10^7)^2}{2} \right] \frac{\text{kg} \cdot \text{m}^2}{\text{s}^2}$$

$$\frac{F}{L} = ?$$

$$B_x = ?$$

$$d = 10 \text{ cm}$$

$$I = 1 \text{ A}$$



$$\frac{F_{13y}}{L} = \frac{F_{13} \cos 30^\circ}{L} =$$

$$= \frac{\mu_0}{2\pi} \frac{I_1 I_3}{d} \cdot \cos 30^\circ$$

$$= \left[2 \cdot 10^{-7} \cdot \frac{1 \text{ A}^2}{0,1} \right] \text{ N/m} \cdot \cos 30^\circ =$$

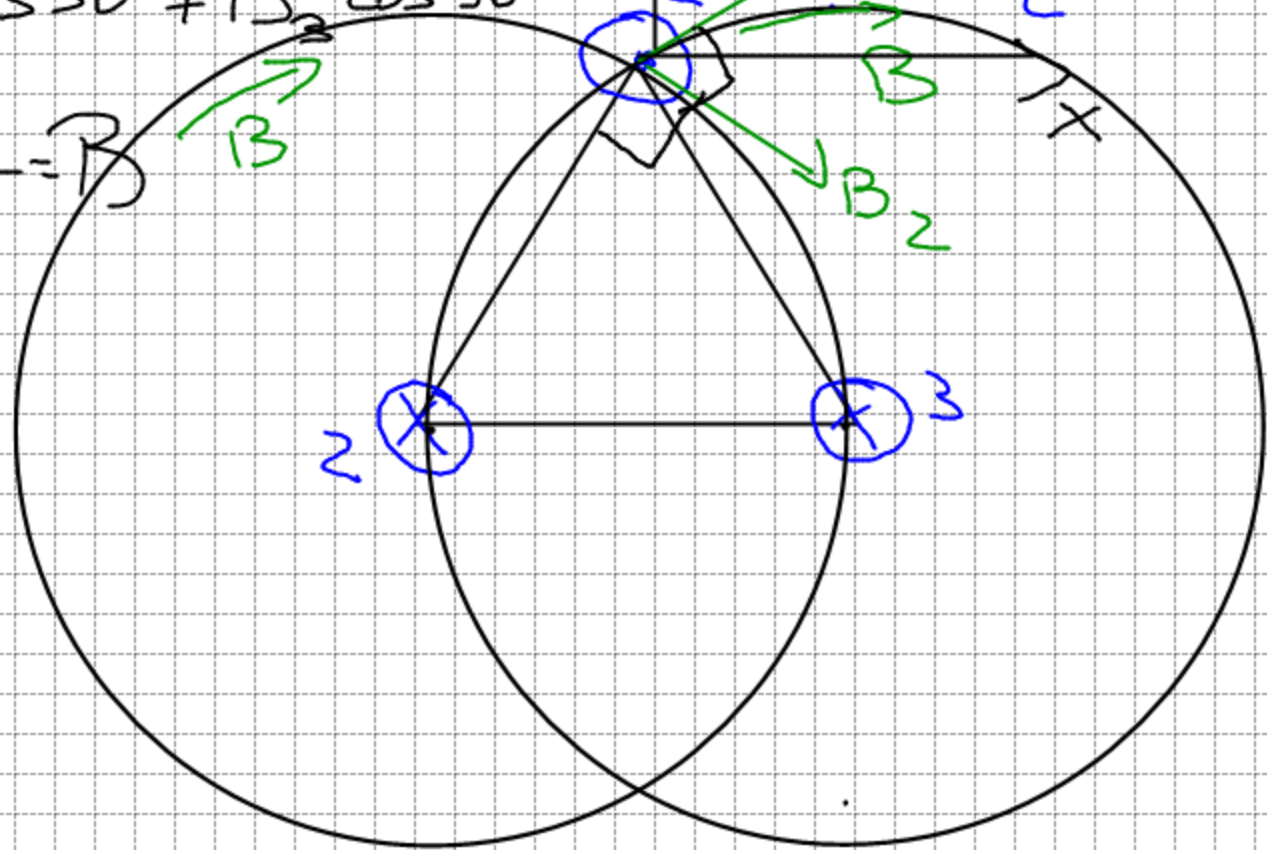
$$= 4,5 \cdot 10^{-4} \text{ N/m} \cdot \cos 30^\circ =$$

$$= 3,8 \cdot 10^{-4} \text{ N/m}$$

$$B_{2x} + B_{3x} =$$

$$= B_2 \cos 30^\circ + B_3 \cos 30^\circ$$

$$\frac{\mu_0}{2\pi} \frac{I}{d} = B$$



$$2 \frac{F_{12}}{L} = 0,78 \cdot 10^{-3} \text{ N/m}$$

$$B = 2 \frac{\mu_0}{2\pi} \frac{I}{d} \cos 30^\circ =$$

$$= \left[4 \cdot 10^{-7} \cdot \frac{1 \text{ A}}{0,1} \right] \text{ T} \cos 30^\circ = 5,9 \cdot 10^{-6} \text{ T}$$