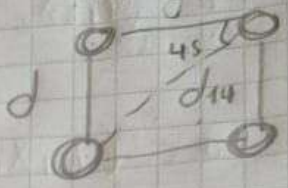
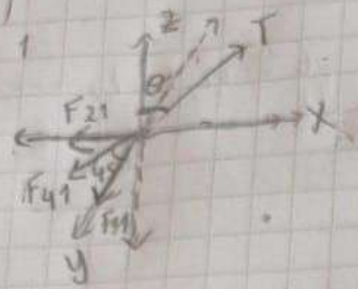


$\frac{d}{d_{14}} = \sen 45$

Para 1



$\Sigma F_x = T\sen\theta - F_{21} - F_{41}\sen 45 = 0$

$\Sigma F_y = F_{31} + F_{41}\cos 45 = 0$

$\Sigma F_z = T\cos\theta - mg = 0$

$T = \frac{mg}{\cos\theta}$

$\frac{\frac{d_{14}}{2}}{L} = \sen\theta$

$d_{14} = 2L\sen\theta \qquad \frac{d}{2L\sen\theta} = \sen 45$

$d = 2L\sen\theta\sen 45$

$d = \sqrt{2}L\sen\theta$

$d = d_{21}$

$T\sen\theta - \frac{Kq^2}{2L^2\sen^2\theta} - \frac{Kq^2\sen 45}{4L^2\sen^2\theta} = 0$

$T\sen\theta - \frac{Kq^2}{2L^2\sen^2\theta} \quad \frac{Kq^2}{4\sqrt{2}L^2\sen^2\theta} = 0$

$T\sen^3\theta = \frac{Kq^2(2\sqrt{2}+1)}{4\sqrt{2}L^2}$

$\frac{mg\cdot\sen^3\theta}{\cos\theta} = \frac{Kq^2(2\sqrt{2}+1)}{4\sqrt{2}L^2}$

$\frac{\sen^3\theta}{\cos\theta} = \frac{Kq^2(2\sqrt{2}+1)}{4\sqrt{2}L^2mg} \rightarrow C = \frac{Kq^2(2\sqrt{2}+1)}{4\sqrt{2}L^2mg}$

$$\frac{Sen^6\theta}{Cos^2\theta} = c^2$$

$$Sen^6\theta = c^2(1 - Sen^2\theta)$$

$$Sen^6\theta = c^2 - c^2 Sen^2\theta$$

$$Sen^6\theta + c^2 Sen^2\theta - c^2 = 0$$

$$c = \frac{(9 \cdot 10^9)(3 \times 10^{-4})(2\sqrt{2} + 1)}{4\sqrt{2}(5^2)(114,6)(10)}$$

$$c = 63,78$$

$$c^2 = 4067,88$$