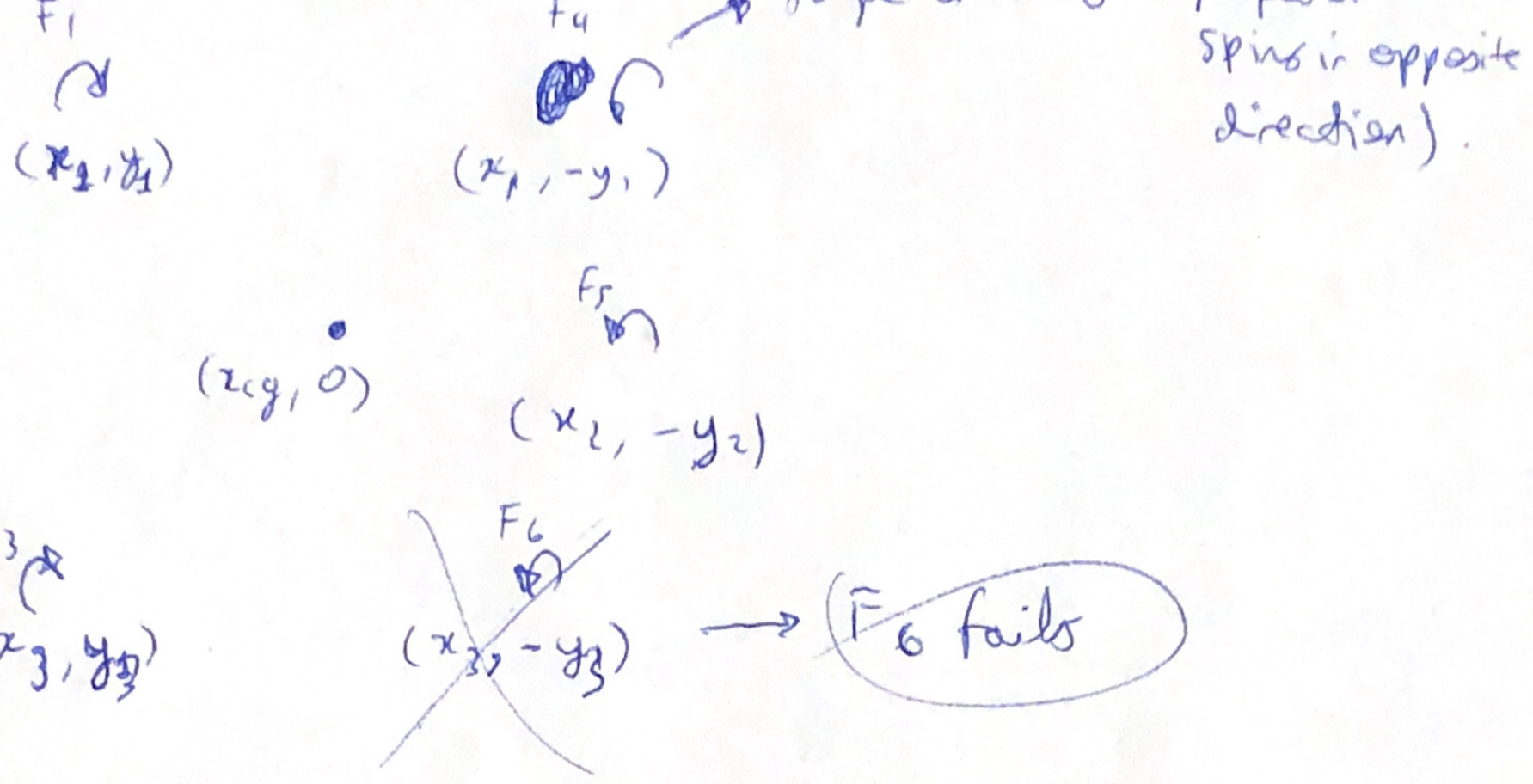
Torque: [illegible] = 0.1

F_i



yaw

Torque $\sum M$: $0.1F_1 + 0.1F_2 + 0.1F_3 - 0.1F_4 - 0.1F_5 - 0.1F_6 = 0$

$\sum F = W$; $F_1 + F_2 + F_3 + F_4 + F_5 + F_6 = W$

Pitch: $F_1(x_1 - x_{cg}) + F_2(x_2 - x_{cg}) + F_3(x_3 - x_{cg})$
$+ F_4(x_1 - x_{cg}) + F_5(x_2 - x_{cg}) + F_6(x_3 - x_{cg}) = 0$

Roll: $F_1 y_1 + F_2 y_2 + F_3 y_3 - F_4 y_1 - F_5 y_2 - F_6 y_3 = 0$.

$$\begin{bmatrix} 0.1 & 0.1 & 0.1 & -0.1 & -0.1 & -0.1 \\ 1 & 1 & 1 & 1 & 1 & 1 \\ (x_1 - x_{cg}) & x_2 - x_{cg} & x_3 - x_{cg} & x_1 - x_{cg} & x_2 - x_{cg} & x_3 - x_{cg} \\ y_1 & y_2 & y_3 & -y_1 & -y_2 & -y_3 \end{bmatrix} \begin{bmatrix} F_1 \\ F_2 \\ F_3 \\ F_4 \\ F_5 \\ F_6 \end{bmatrix} = \begin{bmatrix} 0 \\ W \\ 0 \\ 0 \end{bmatrix}$$

→ If there is no solution, pivots is less than 4. If solution, pivots = 4.