$F_{1x} = F_1 \cos(\alpha)$ $F_{1y} = F_1 \operatorname{sen}(\alpha)$

$F_{2x} = 0$ $F_{2y} = 200$

$F_{3x} = -166,1538$ $F_{3y} = 69,2307$

$F_{Rx} = 800 \cos(30)$ $F_{Ry} = 800 \operatorname{sen}(30)$

$F_{Rx} = F_{1x} + F_{2x} + F_{3x} \Rightarrow F_1 \cos(\alpha) = 858,9742$

$F_{Ry} = F_{1y} + F_{2y} + F_{3y} \Rightarrow F_1 \operatorname{sen}(\alpha) = 130,7692$

$F_1 \operatorname{sen}(\alpha) = 130,7692$
$F_1 \cos(\alpha) = 858,9742$

$tg(\alpha) = \frac{130,7692}{858,9742} \Rightarrow \boxed{\alpha = 8,656^\circ}$

$\alpha + \theta = 30 \Rightarrow \boxed{\theta = 21,34^\circ}$

$F_1 = \frac{130,7692}{\operatorname{sen}(\alpha)} = 868,9N$

$\theta = 21,34^\circ$
$F_1 = 868,9N$