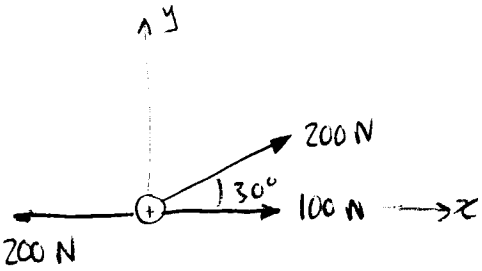
4.11 Net force?

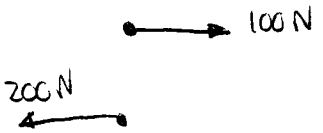
- FIND COMPONENTS
- SUM COMPONENTS



— horizontal:

$F_x = 100\ N - 200\ N + 200 \cos 30°$

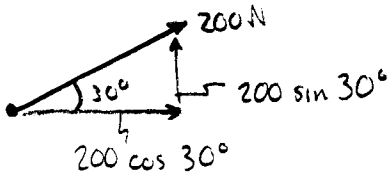
$\boxed{F_x = 73.2\ N \rightarrow}$



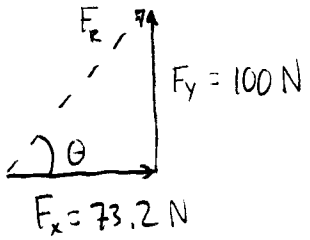
— vertical:

$F_y = 200 \sin 30°$

$\boxed{F_y = 100\ N \uparrow}$



- FIND RESULTANT



magnitude: $F_R = \sqrt{F_x^2 + F_y^2} = \sqrt{(73.2)^2 + (100)^2}$

$\boxed{F_R = 124\ N}$

direction: $\boxed{\theta = \tan^{-1}\left(\frac{100}{73.2}\right) = 54° \measuredangle}$

ANSWER:

$\boxed{F_{net} = 124\ N \text{ @ } 54° \text{ above the } x\text{-axis.}}$