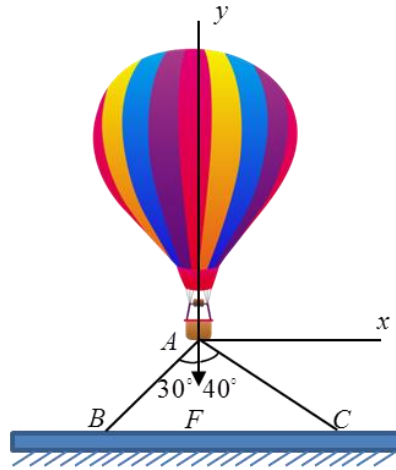


20. The vertical resultant force, which holds the balloon in place, follows a normal distribution $F \sim N(800, 10^2)$ N. Resolve this force into components along the tether lines AB and AC , and determine the distribution of each component.



Solution: The component distributions are $F_{AC} \sim N(425.67, 5.32^2)$ N and $F_{AB} \sim N(547.32, 6.84^2)$ N.