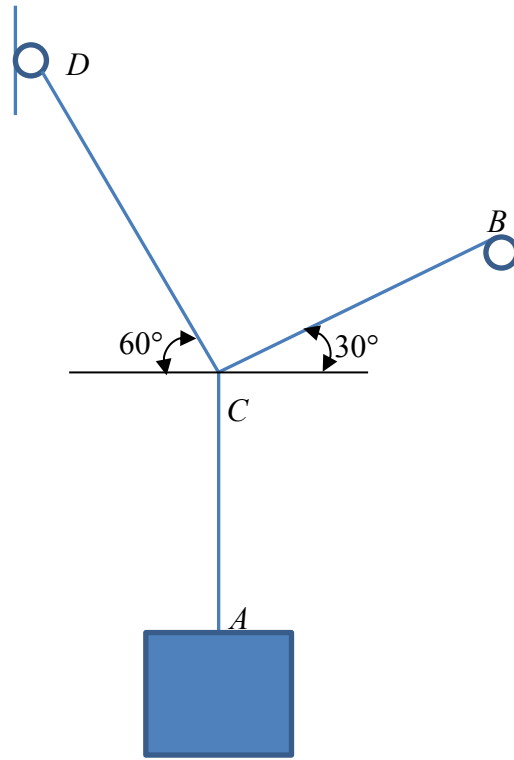


3. The cord CD can support a maximum load of $T \sim N(220, 12^2)$ lb . Determine the probability of failure of the system if the weight of the crate follows another independent normal distribution $W \sim N(200, 15^2)$ lb .



Answer: The probability of failure is $\Pr = P(Y > 0) = 1 - P(Y \leq 0) = 1 - \Phi\left(\frac{-\mu_Y}{\sigma_Y}\right) = 0.41\%$