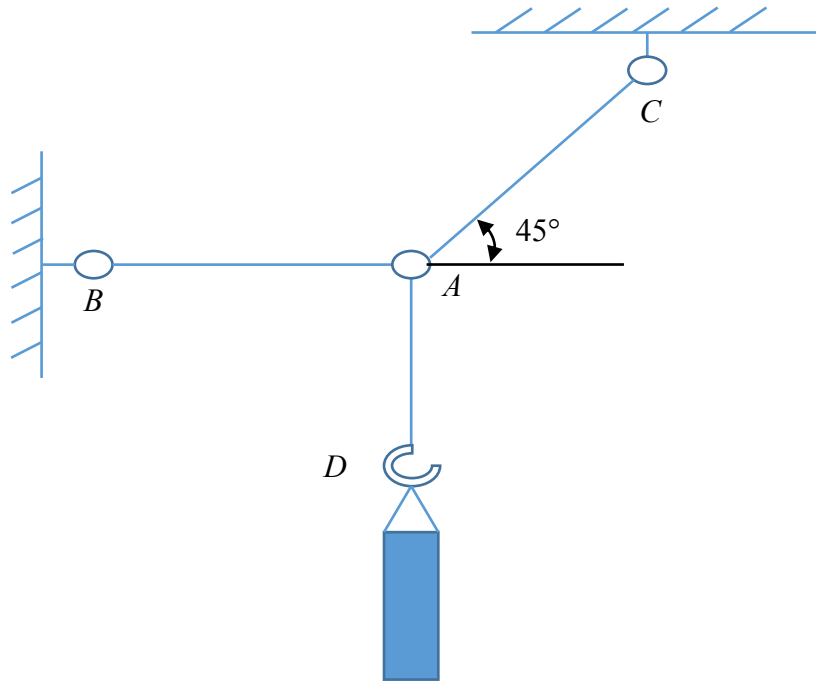


2. The load $W \sim N(20, 1.5^2)$ kg pipe is supported at D by a system of three cords. Determine the force in each cord. If the allowable tension of AC follows normal distribution $T \sim N(300, 10^2)$ N, which is independent from W , determine the probability of failure of cable AC .



Answer

Finally, the probability of failure is

$$\Pr = P(Y > 0) = 1 - P(Y \leq 0) = 1 - \Phi\left(\frac{-\mu_Y}{\sigma_Y}\right) = 0.1646$$