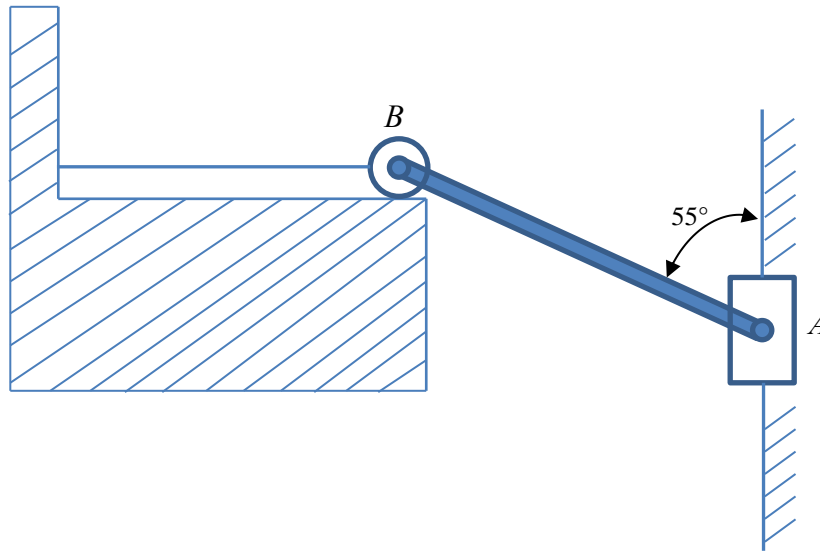


1. The uniform rod AB with a length 6 ft has a normally distributed weight $G \sim N(20, 0.5^2)$ lb. (1) Determine the distribution of the force in the cable when the rod is in the position shown. (2) The maximum tension of the rod follows $S \sim N(16, 0.2^2)$ lb, what is the probability the system might fail if G and S are independent?



Answer: (1) $T \sim N(14.28, 0.8^2)$ lb

(2) $P=0.0184$