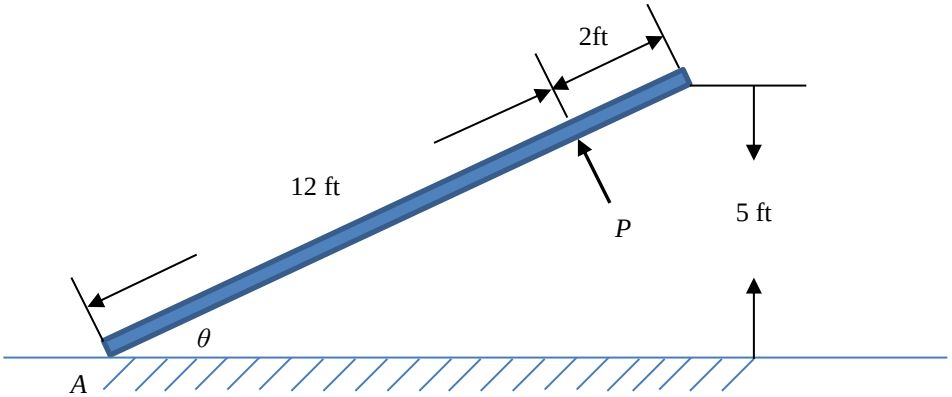
10. A normally distributed force $P \sim N(40, 2^2)$ N is applied perpendicularly to a beam which weights $m \sim N(10, 1^2)$ kg, where P and m are independent. Determine the probability of slipping if the coefficient of static friction between the beam and the ground at A is $\mu_s = 0.4$.



Answer:

P=0.68%