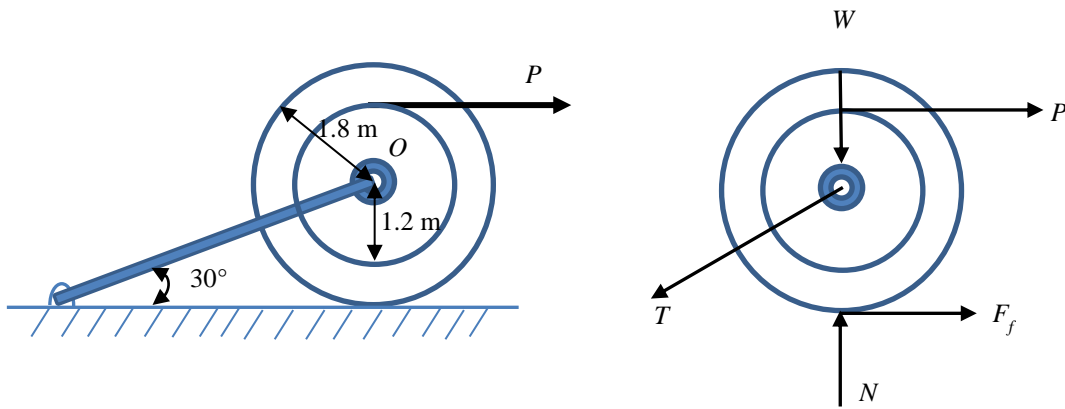


3. A force  $P$  which follows a normal distribution  $P \sim N(2.2, 0.015^2)$  lb is applied to the spool as shown below. Determine the probability that the spool will slide if the weight of the spool follows another independent normal distribution  $W \sim N(1.5, 0.025^2)$  lb and the static friction between the ground and the spool is  $\mu_s=0.4$ .



**Answer:** the probability that the spool will slide is 0.9113.