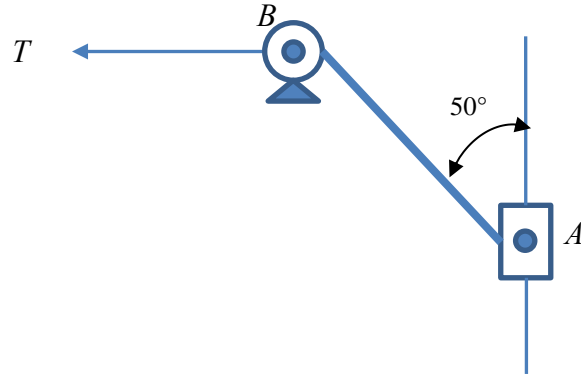


18. The uniform rod  $AB$  with length 10 inch has a normally distributed weight  $W \sim N(25, 1^2)$  lb. The maximum tension of the cable follows  $S \sim N(17, 0.5^2)$  lb, what is the probability that the system might fail if  $W$  and  $S$  are independent?



**Solution:** The probability that the system might fail is 0.0697.