5-2. A rod has a diameter of 2 in, and it is subjected to a shear force of $V \sim N\left(4, 0.2^2\right)$ kip. If the allowable shear stress is $\tau_a \sim N\left(3.5, 0.3^2\right)$ ksi, determine the probability of failure of the rod. Assume that τ_a and V are independent. (**Ans.** $p_f = 4.79 \times 10^{-7}$)