70. A torque $T \sim N(80, 8^2)$ N·m is applied to a 600-mm-long strip shown in the figure. The strip has a rectangular section with a width of $b = 200$ mm and a thickness of $t = 60$ mm. If the allowable shear stress is $\tau_a \sim N(30, 3^2)$ MPa, estimate probability of failure using FOSM. Note that T and τ_a are independent.

Answer: $p_f = 8.12(10^{-5})$