

1-10. A cantilever is subject to a uniformly distributed load  $P \sim N(10, 1.2^2)$  kips/ft as shown in the figure. If the allowable shear strain at point C is  $\gamma = 7 \times 10^{-6}$ , determine the probability of failure.

Given that the beam has a Shear modulus of  $G = 11 \times 10^3$  ksi.  $P$  and  $\gamma_a$  are independent.

(Ans.  $p_f = 3.56 \times 10^{-6}$ )

