8-8. The force acting on the beam *AB* follows a normal distribution $P \sim N(2.6, 0.2^2)$ kip and the modulus of elasticity follows another normal distribution $E \sim N\left(29\times10^3, (2\times10^3)^2\right)$ ksi . Determine the probability of failure of beam *BC* caused by *x*-*x* axis buckling. The supports at *A*, *B* and *C* are pin connected. Assume that *E* and *P* are independent. (**Ans.** $p_f = 1.5571\times10^{-5}$)