5. If $F_1 \sim N(15, 2^2)$ kN and $F_2 \sim N(10, 1^2)$ kN, what is the distribution of the stress acting on rod BC? The diameter of rod BC is 0.1 m. Assume P_1 and P_2 are independent.

Answer: $S \sim N(1.49, 0.12^2)$ MPa