9. For the reaction: \( \text{N}_2(g) + \text{O}_2(g) \rightleftharpoons 2\text{NO(g)} \)

...the measured equilibrium constants (expressed in terms of partial pressures) are:
\[ K_P = 1.1 \times 10^{-3} \text{ at a temperature of } 2200 \text{ K and} \]
\[ K_P = 3.6 \times 10^{-3} \text{ at a temperature of } 2500 \text{ K} \]

Which of the following statements about this reaction must be true?

A. \( K_P = K_C \cdot RT \)
B. \( K_P = K_C / (RT) \)
C. Starting with the same initial partial pressures, the equilibrium partial pressure of \( \text{NO(g)} \) would be lower at \( 2500 \text{ K} \) than at \( 2200 \text{ K} \).
D. The reaction is endothermic.
E. Decreasing the volume of the reaction vessel would shift the equilibrium position to the left.
F. Increasing the pressure of the reaction vessel by adding \( \text{CO}_2 \) would shift the equilibrium position to the right.

D