Consider the wave pattern of \( s = s_{\text{max}} \cos(kx - \omega t) \) at \( t = 0 \) as shown. Determine \( \Delta P \) at the most rarefied point, \( B_3 \).

Determine \( \Delta P \) at the most rare field point, \( B_3 \). Which one is right?

A) \( \Delta P = \Delta P_{\text{max}} \).

B) \( \Delta P = 0 \).

C) \( \Delta P = -\Delta P_{\text{max}} \).
At \( t = 0 \), point \( B_3 \) is at \( k x = \frac{3\pi}{2} \).

\[
\Delta P = \Delta p_{max} \sin \left( k x - \omega t \right) = \Delta p_{max} \sin \left( \frac{3\pi}{2} \right) = -\Delta P_{max}.
\]

Answer C

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