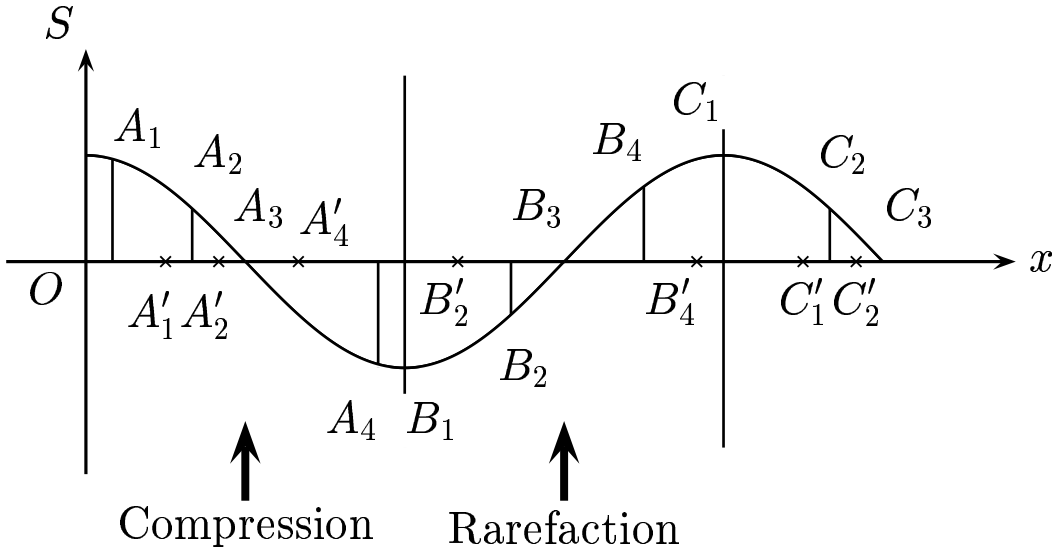
Consider the wave pattern of $s = s_{max} \cos(k x - \omega t)$ at $t = 0$ as shown. Determine ΔP at the most rarefied point, B_3.



Determine ΔP at the most rare field point, B_3. Which one is right?

A) $\Delta P = \Delta P_{max}$.
B) $\Delta P = 0$.
C) $\Delta P = -\Delta P_{max}$.

At $t = 0$, point B_3 is at $k x = \dfrac{3\pi}{2}$.

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

Answer **C**

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