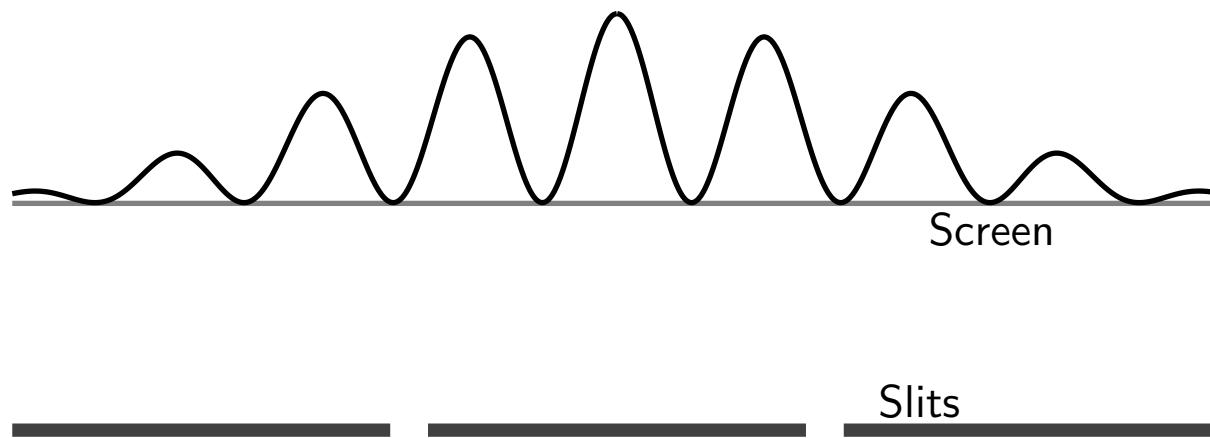


Photon Interference: Double Slits

Probability of arrival of photons at various screen locations.



Question 1

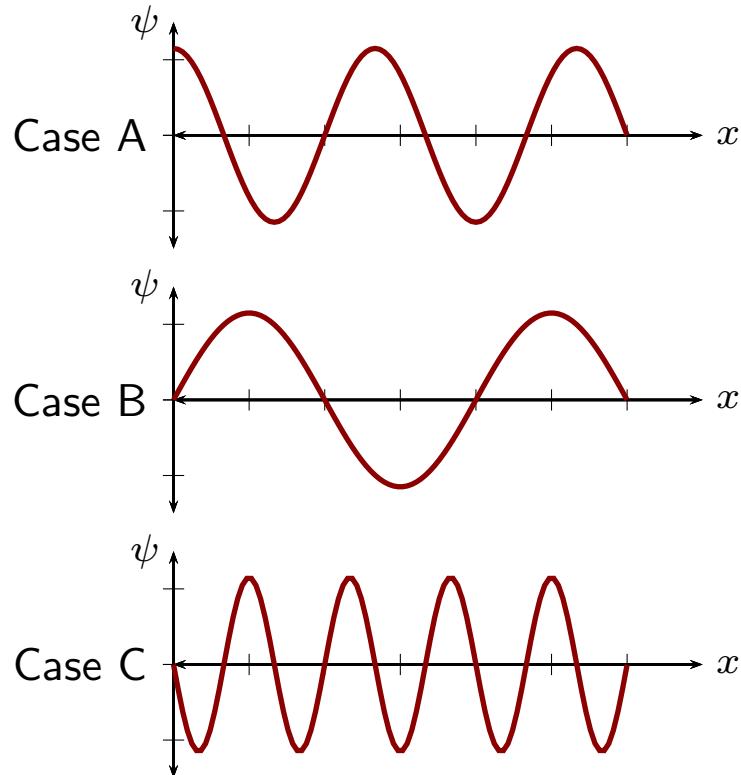
Consider a sinusoidal wave with wavenumber k , angular frequency ω and wave speed v .

Which of the following is *always* true?

1. $v = k\omega$
2. $v = \omega/k$
3. $v = k/\omega$
4. None of the above.

Question 2

Snapshots of various waves at one instant are illustrated.



Rank the waves in order of **wavenumber**.

1. $k_A = k_B = k_C$
2. $k_B < k_A < k_C$
3. $k_C < k_A < k_B$

Sinusoidal Wave: Phase Shifts

Waves of the form $\psi(x, t) = A \cos(kx - \omega t - \phi)$ at $t = 0$. In these examples $\lambda = 4$.

