Is "The Wave" at the stadium a transverse wave or a longitudinal wave?

A. Transverse
B. Longitudinal
C. Neither

A wave on a stretched drum head is an example of a:

A. transverse wave
B. longitudinal wave
C. it's not a wave at all

ANNOUNCEMENTS

- Papers are graded and grades were sent out
  - Some emails bounced!
- Quiz next Friday (Maxwell Ampere + Poynting Vector)
  - Determine the electric and magnetic field in a situation where there is a displacement current
  - Discuss the direction of the Poynting vector and how it relates to conservation of energy

The electric field for a plane wave is given by:

$$\mathbf{E}(\mathbf{r}, t) = \mathbf{E}_0 e^{i(\mathbf{k}\cdot\mathbf{r} - \omega t)}$$

The vector $\mathbf{k}$ tells you:

A. The direction of the electric field vector.
B. The speed of the traveling wave.
C. The direction the plane wave moves.
D. A direction perpendicular to the direction the plane wave moves
E. None of these/MORE than one of these/???

The electric field for a plane wave is given by:

$$\mathbf{E}(\mathbf{r}, t) = \mathbf{E}_0 e^{i(\mathbf{k}\cdot\mathbf{r} - \omega t)}$$

Suppose $\mathbf{E}_0$ points in the $+x$ direction. Which direction is this wave moving?

A. The x direction.
B. The radial (r) direction
C. A direction perpendicular to both $\mathbf{k}$ and $\mathbf{x}$
D. The $\mathbf{k}$ direction
E. None of these/MORE than one of these

A wave is moving in the $+z$ direction:

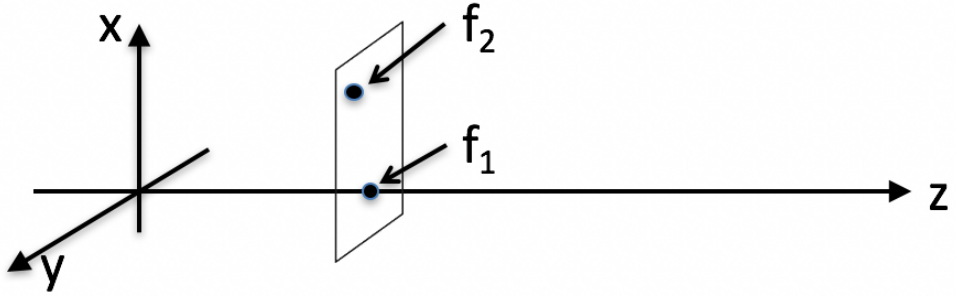
$$f(x, y, z, t) = Re\left[Ae^{i(kz-\omega t+\delta)}\right]$$

The value of f at the point $(0, 0, z_0, t)$ and the point at (x, y, z_0, t) are related how?

$$f_1 = f(0, 0, z_0, t) \text{ vs. } f_2 = f(x, y, z_0, t)$$

A. $f_1 = f_2$ always

B. $f_1 >$ or $<$ or $= f_2$ depending on the value of x, y



The electric field of an E/M wave is described by:

$$\mathbf{E} = E_0 \sin(kx - \omega t)\hat{\mathbf{y}}$$

What is the direction of the magnetic field?

A. $+x$

B. $+y$

C. $-x$

D. $+z$

E. $-z$