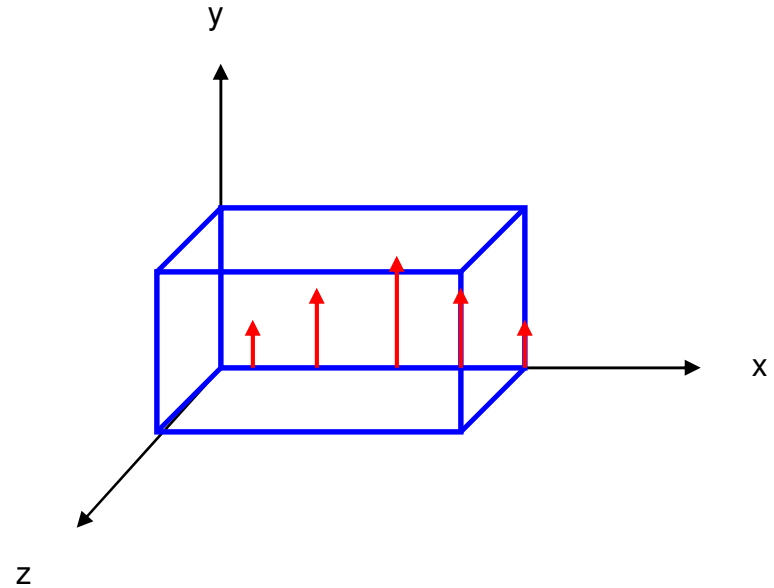


What is  $\oint \vec{E} \cdot d\vec{A}$  over the box for the plane wave shown?

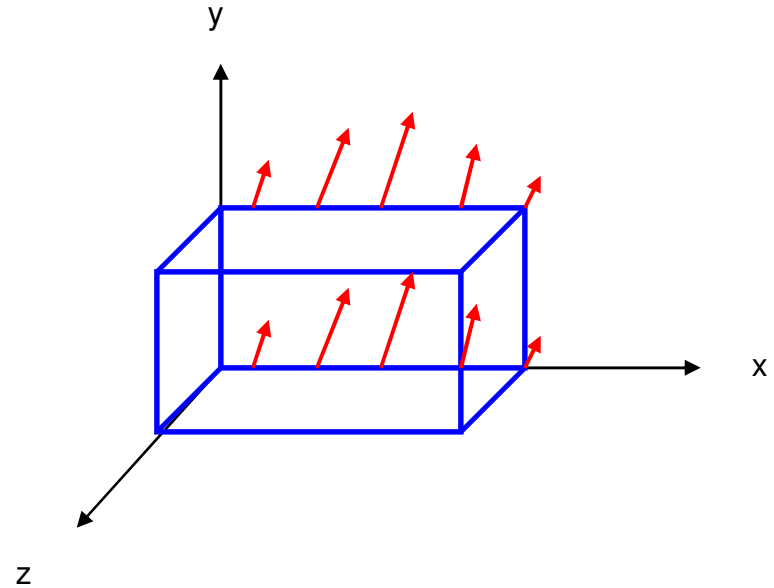


(a) zero

(b) greater than zero

(c) less than zero

What is  $\oint \vec{E} \cdot d\vec{A}$  over the box for the plane wave shown?



(a) zero

(b) greater than zero

(c) less than zero

If an EM wave has electric field

$$E_y(x,t) = E_{\max} \cos(kx + \omega t)$$

is the Poynting vector positive or negative?

(a) positive

(b) negative

If an EM wave has electric field

$$E_y(x,t) = E_{\max} \cos(kx + \omega t)$$

is the Poynting vector ever zero?

(a) yes

(b) no

What is the radiation pressure on a surface if light is reflected by the surface?

(a) 0

(b)  $I/c$

(c)  $-I/c$

(d)  $2I/c$

If an EM wave has electric field

$$E_y(x,t) = -E_{\max} \cos(kx - \omega t)$$

What is the B field?

(a)  $B_x(x,t) = B_{\max} \cos(kx - \omega t)$

(b)  $B_y(x,t) = B_{\max} \cos(kx - \omega t)$

(c)  $B_z(x,t) = -B_{\max} \cos(kx - \omega t)$

(d)  $B_z(x,t) = B_{\max} \cos(kx + \omega t)$