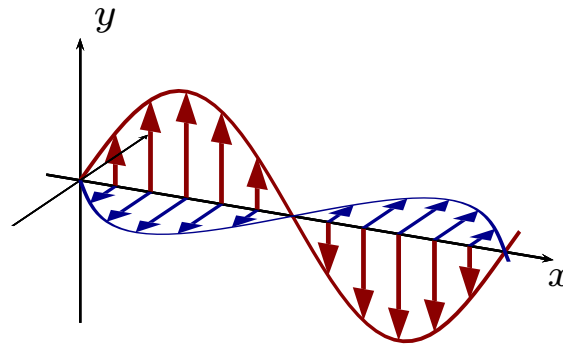


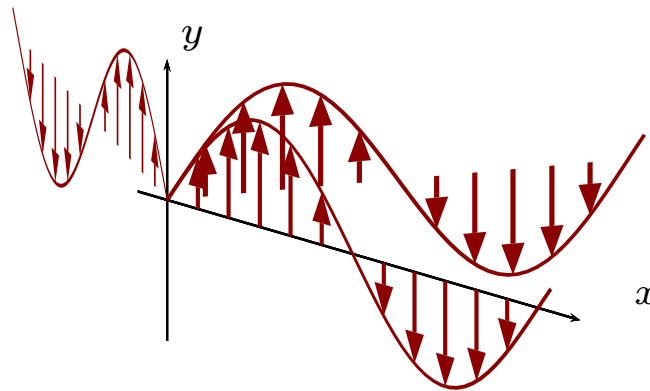
Electromagnetic Wave Propagation Along One Line

Electromagnetic wave propagating along $+x$ direction.
Red indicates the electric field, blue the magnetic field.



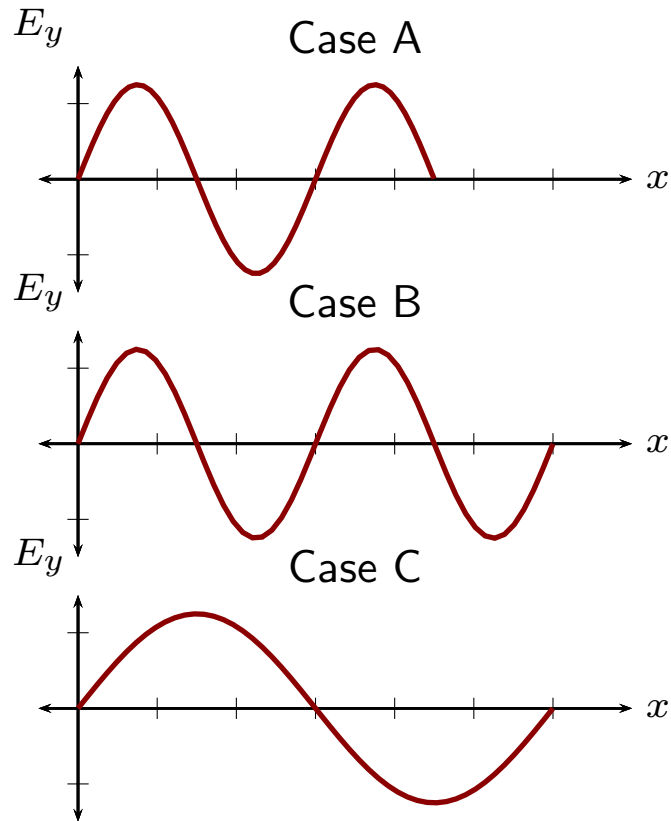
Electromagnetic Wave Propagation Along Several Directions

Electromagnetic waves produced by charge oscillating up and down the y axis.
Red indicates the electric field.



Question 1

Various electromagnetic waves at one instant are illustrated.

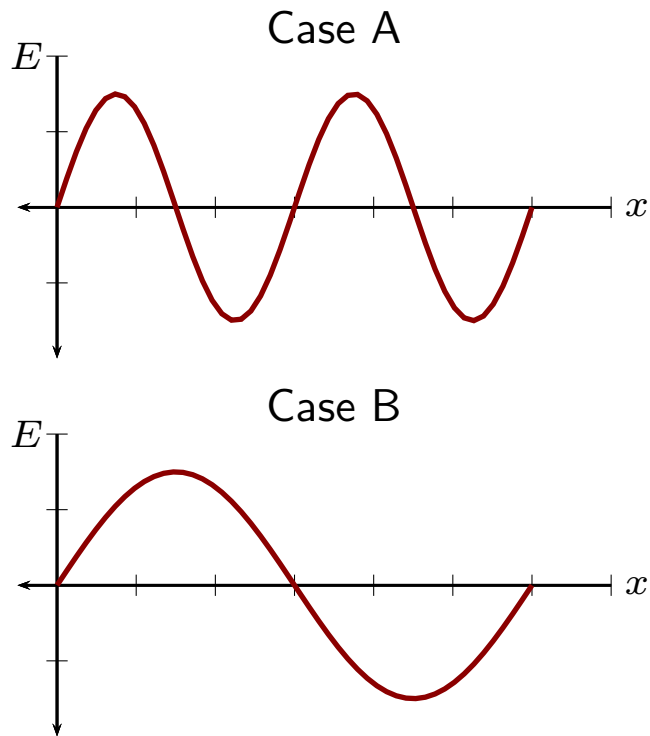


Rank the waves in order of **wavelength**.

1. $A = B = C$
2. $A = B < C$
3. $A = B > C$
4. $A < B = C$
5. $A < B < C$

Question 2

Two electromagnetic waves at one instant are illustrated. These wave patterns travel to the right with the same speed.



Which of the following is true regarding the frequencies of the waves?

1. $f_B = \frac{1}{2} f_A$
2. $f_B = f_A$
3. $f_B = 2f_A$
4. None of the above/not enough info.