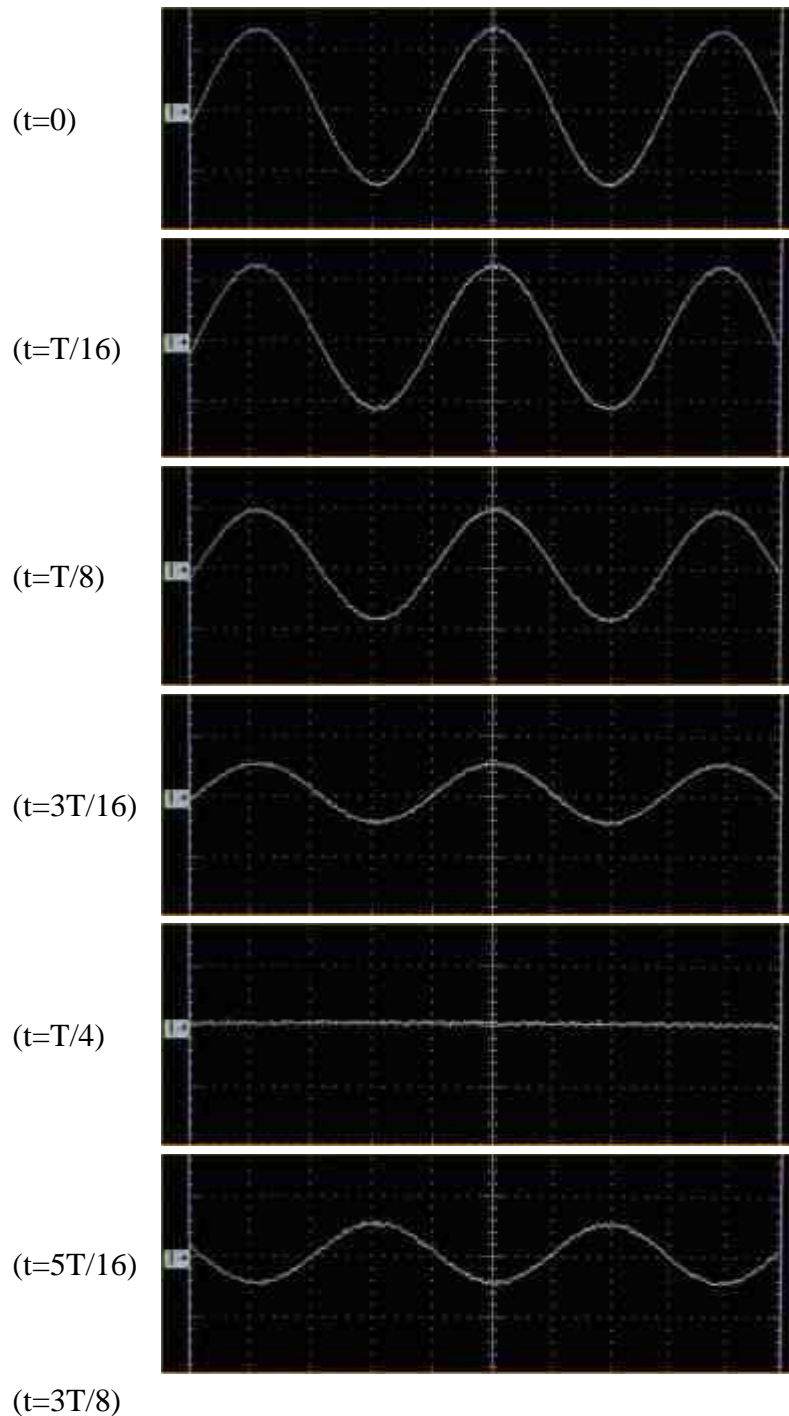
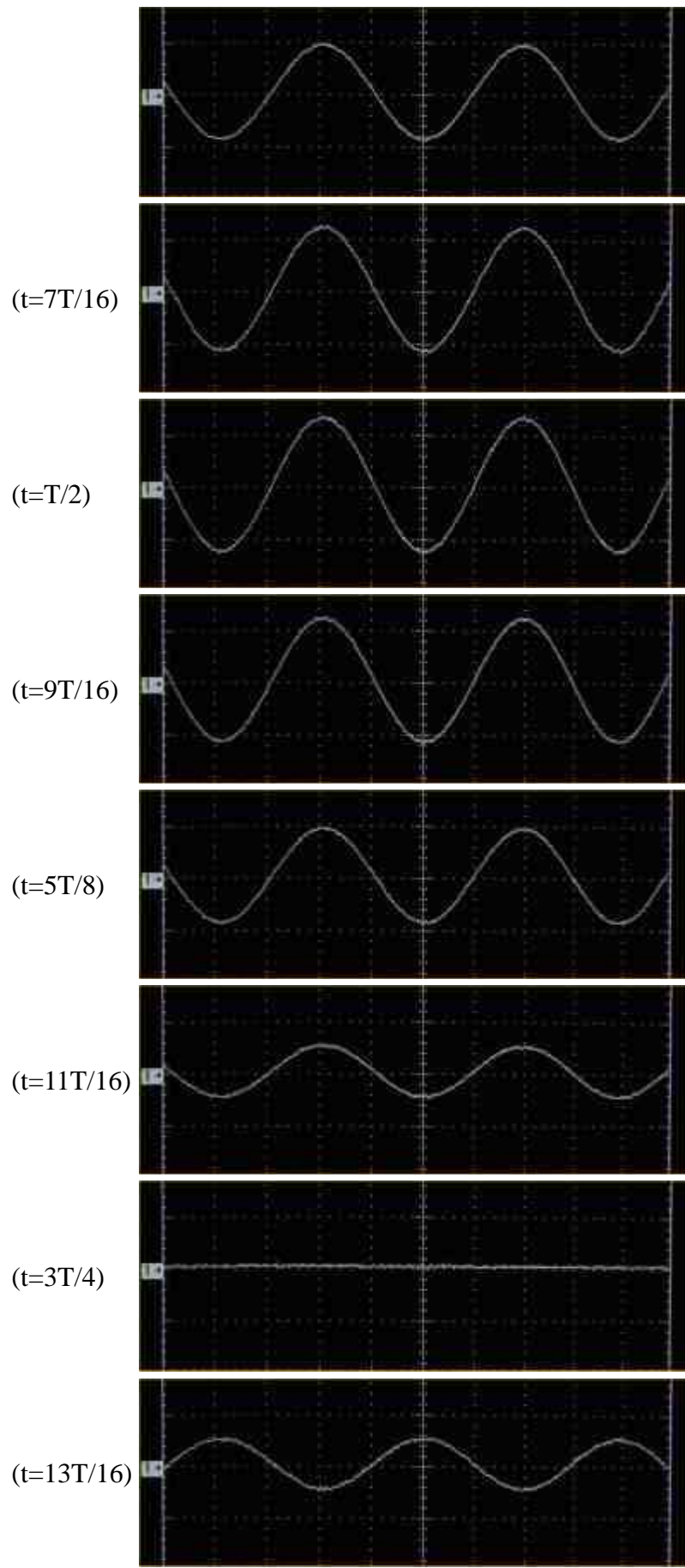
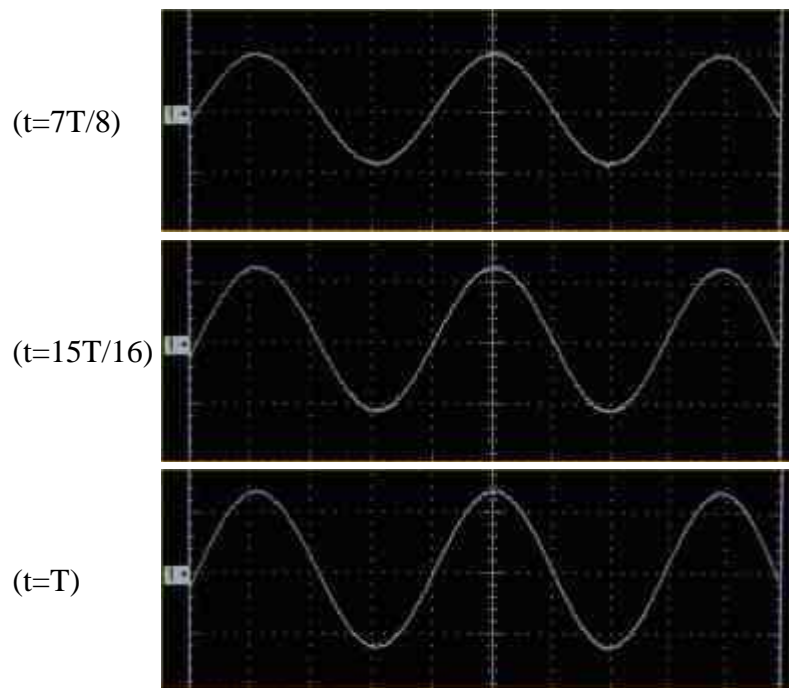


Answer #213

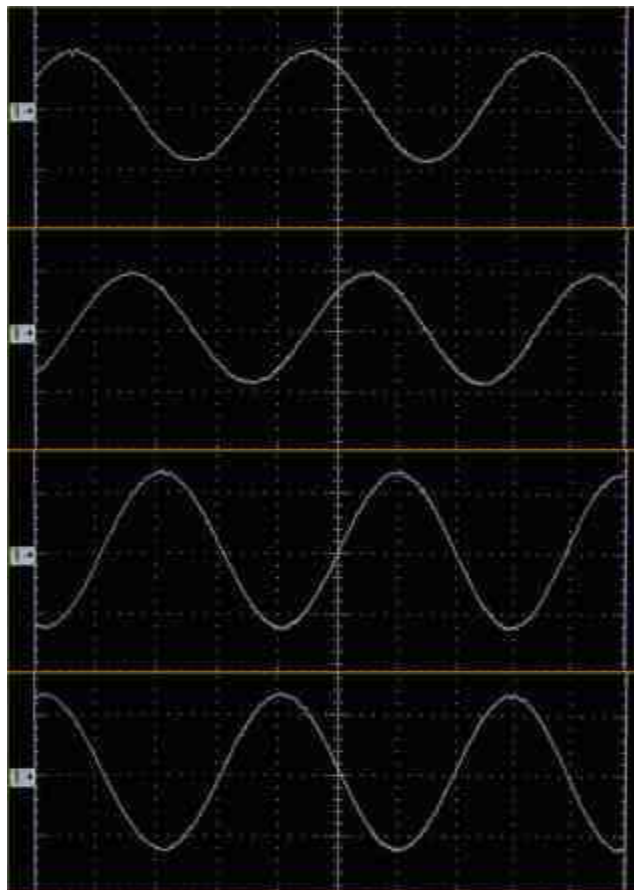
The sum waves that are possible representations of the standing wave formed by the two component waves include, in order of time as shown below: (a), (j), (c), (o), (l), (f) (n), (k), and (i). The sum waves are seen below, along with the time intervals at which they were added, in units of one period T . The sum wave has been continued through one full period. The sum waves, along with the two component waves at each instant in time, can be seen in more detail by clicking your mouse on any of the linked (blue outlined) component waves in the figure.

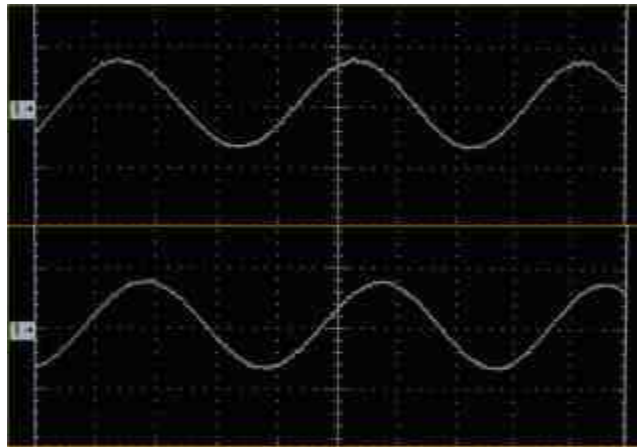






Below are shown the wave representations that are not produced as standing waves by the two component waves. Click on any of these figures to see them with their component waves. Can you see why they are not legitimate standing waves in this set?





Click [here](#) to see some legitimate standing waves produced with incorrect components. Do you understand the problems?

[Archive 11](#)

[Question of the Week](#)

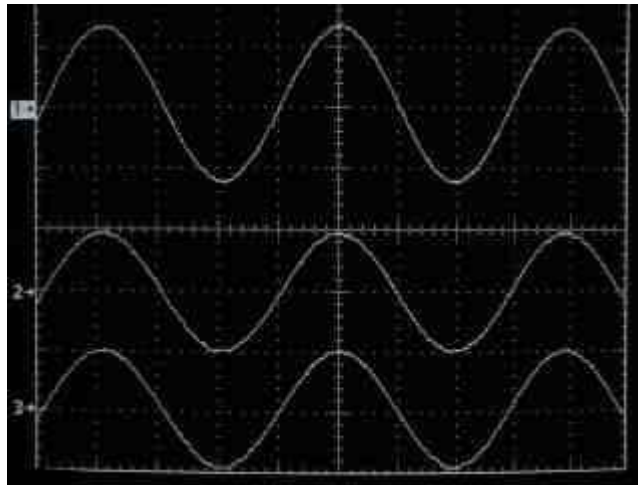
[Outreach Index Page](#)

[Lecture-Demonstration Home Page](#)

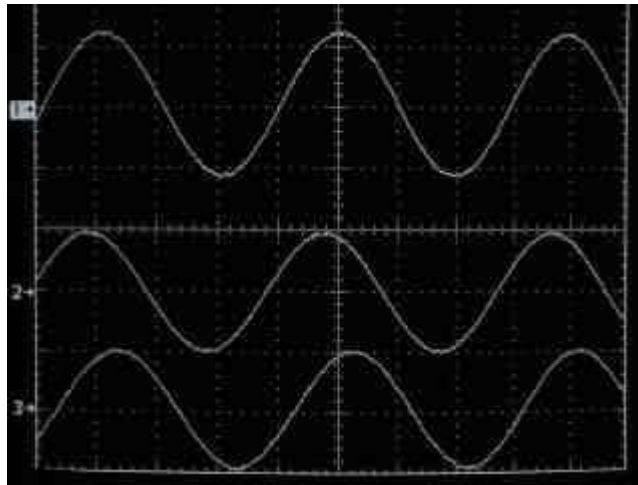


For questions and comments regarding the *Question of the Week* contact [Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).

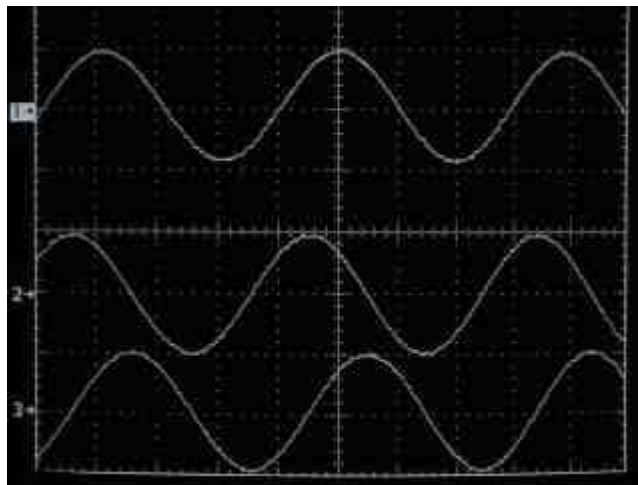
($t=0$)



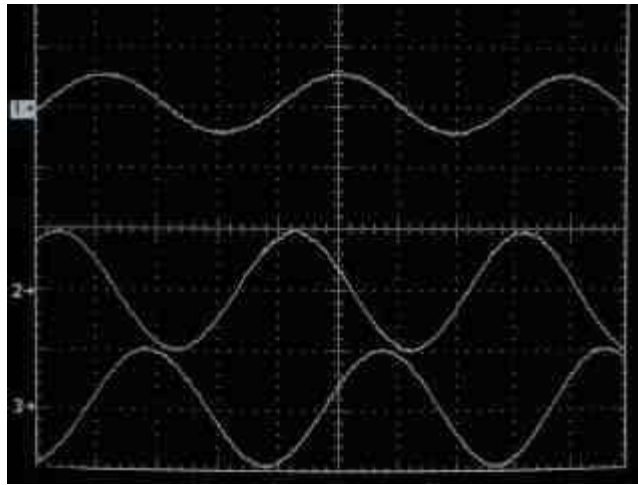
($t=T/16$)



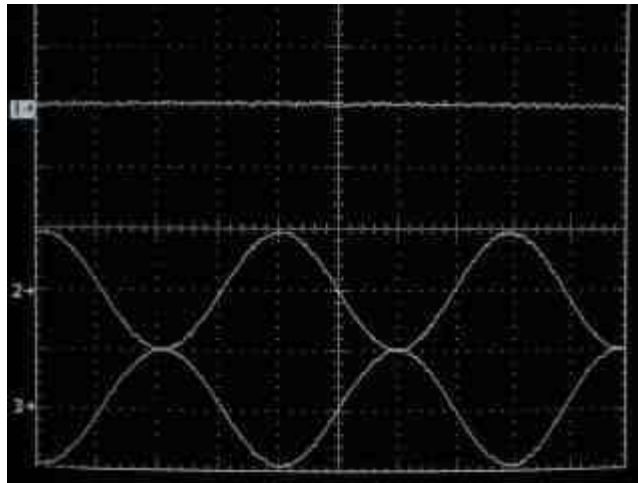
($t=T/8$)



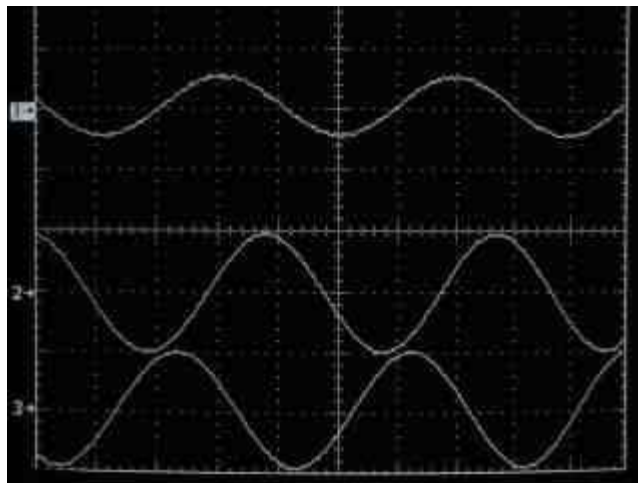
($t=3T/16$)



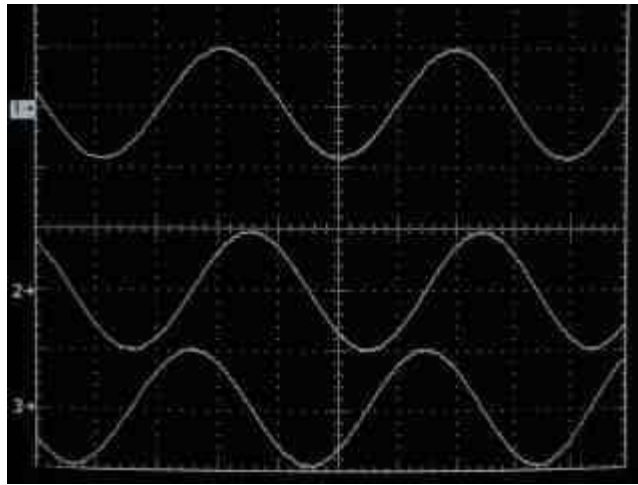
$(t=T/4)$



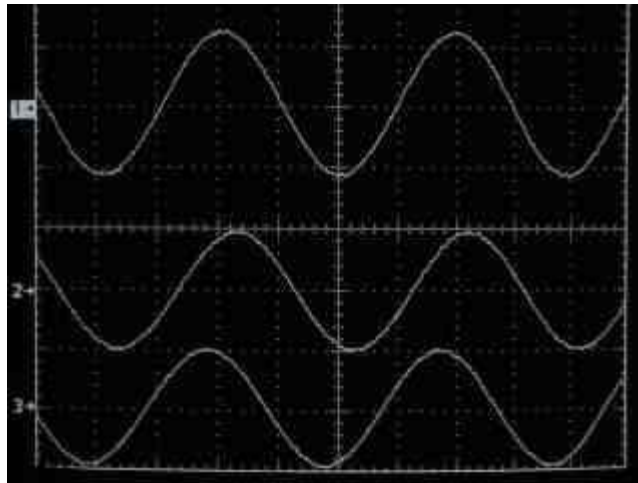
$(t=5T/16)$



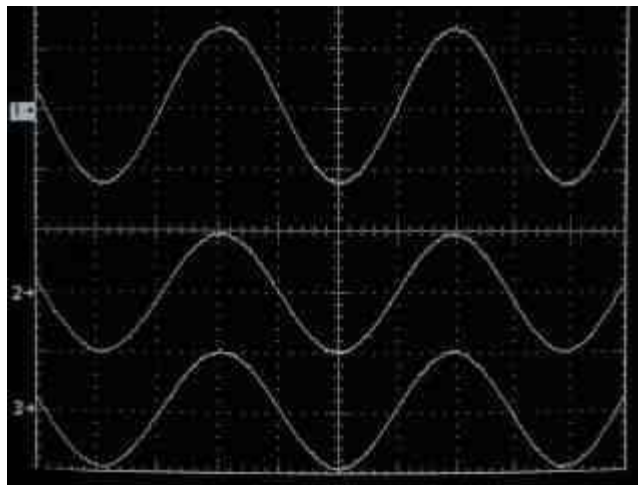
$(t=3T/8)$



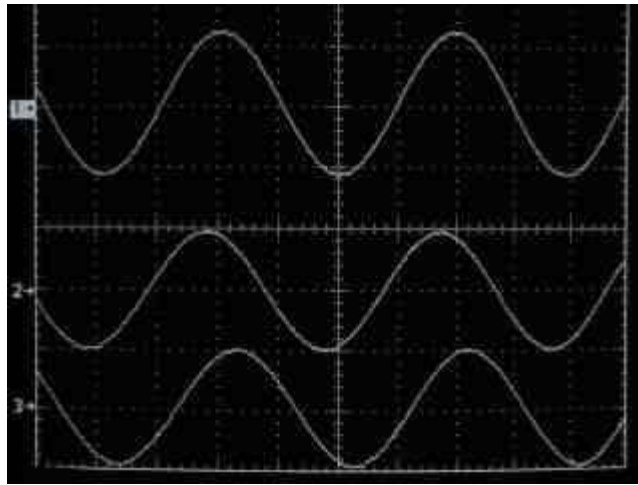
($t=7T/16$)



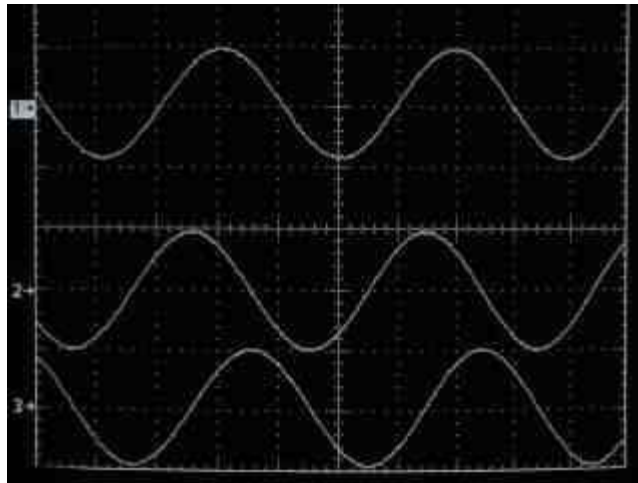
($t=T/2$)



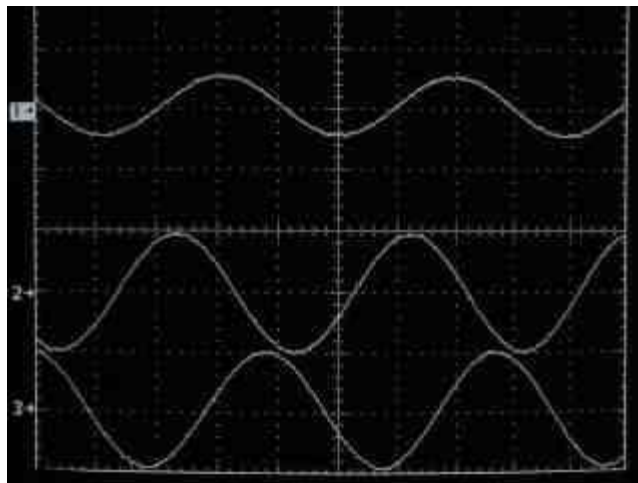
($t=9T/16$)



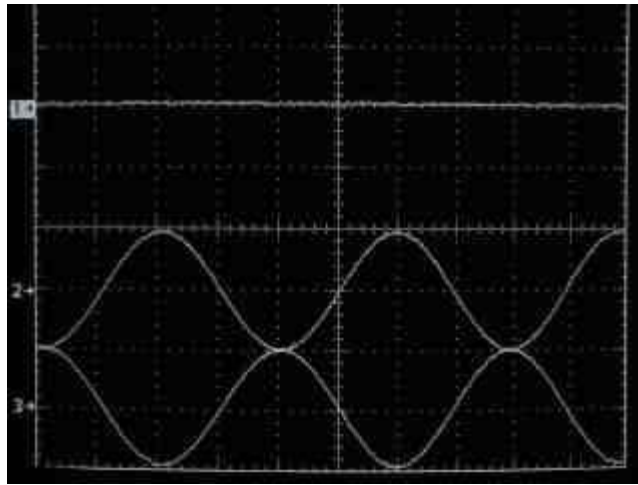
$(t=5T/8)$



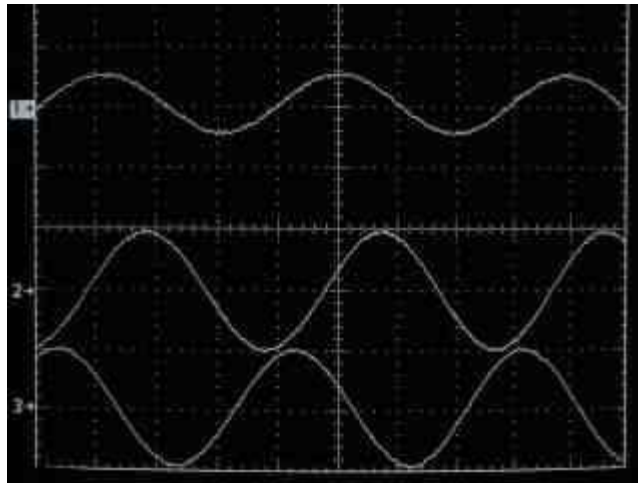
$(t=11T/16)$



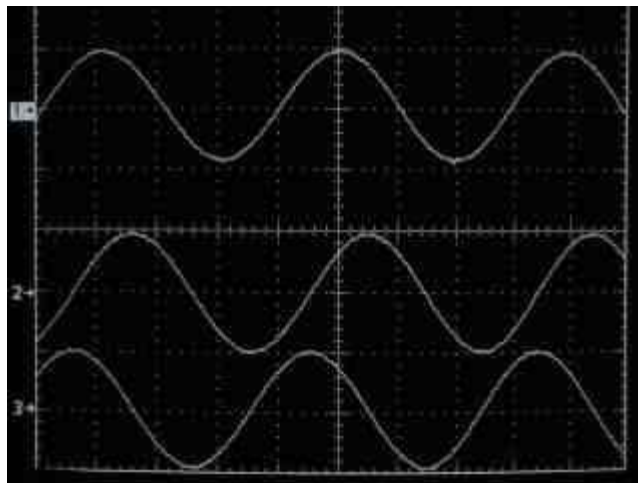
$(t=3T/4)$



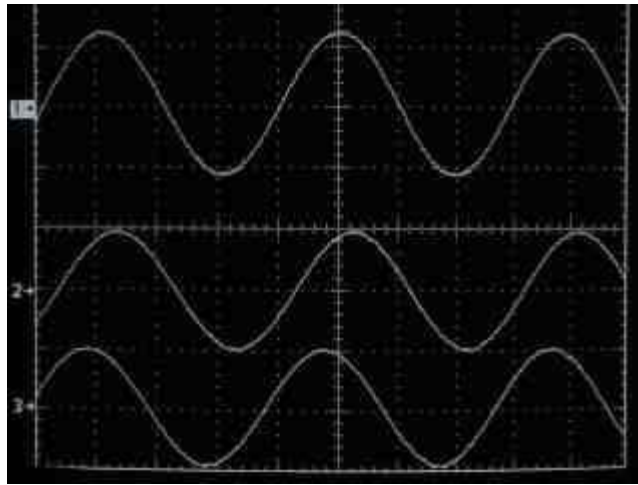
($t=13T/16$)



($t=7T/8$)



($t=15T/16$)



($t=T$)

