

## PROBLEM:

The phase of a sinusoid can be related to time shift:  $x(t) = A \cos(2\pi f_o t + \phi) = A \cos(2\pi f_o (t - t_1))$

In the following parts, assume that the period of the sinusoidal wave is  $T = 1/10$  sec.

- (a) “When  $t_1 = 1/20$  sec, a correct value of the phase is  $\phi = \pi/2$ .”

Explain whether this is TRUE or FALSE.

- (b) “When  $t_1 = -1/40$  sec, a correct value of the phase is  $\phi = \pi/2$ .”

Explain whether this is TRUE or FALSE.

- (c) “When  $t_1 = 1/4$  sec, a correct value of the phase is  $\phi = -\pi$ .”

Explain whether this is TRUE or FALSE.