PROBLEM:

The phase of a sinusoid can be related to time shift:

$$x(t) = A \cos(2\pi f_\circ t + \phi) = A \cos(2\pi f_\circ (t - t_1)) \tag{1}$$

In the following parts, assume that the period of the sinusoidal wave is $T = 8$ sec.

(a) "When $t_1 = -2$ sec, the value of the phase is $\phi = \pi/2$."
Explain whether this is TRUE or FALSE.

(b) "When $t_1 = 3$ sec, the value of the phase is $\phi = 3\pi/4$."
Explain whether this is TRUE or FALSE.

(c) "When $t_1 = 7$ sec, the value of the phase is $\phi = \pi/4$."
Explain whether this is TRUE or FALSE.