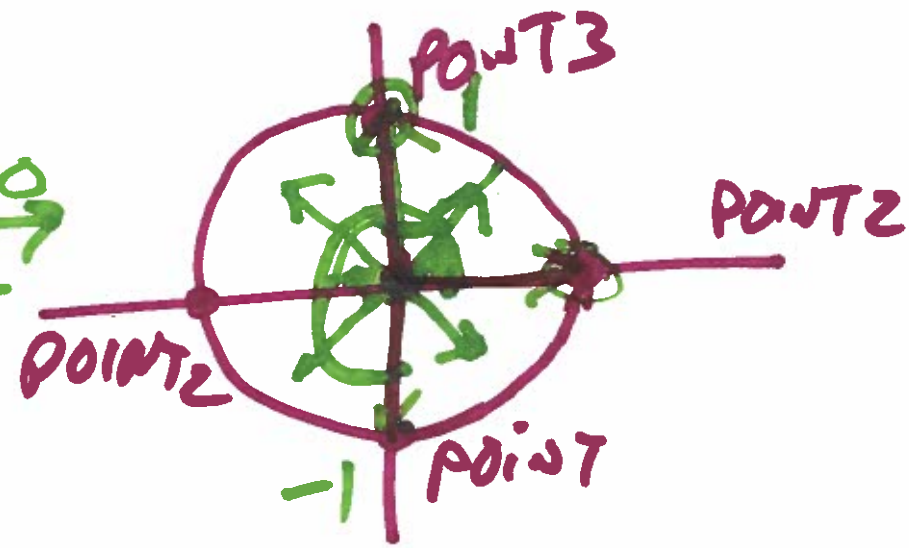
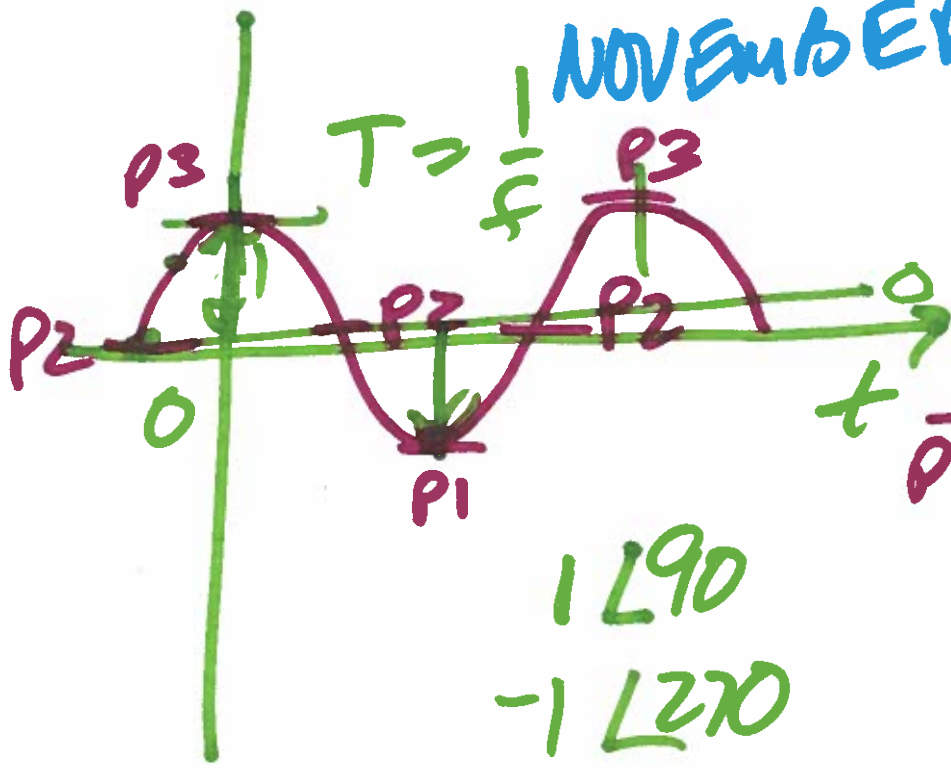


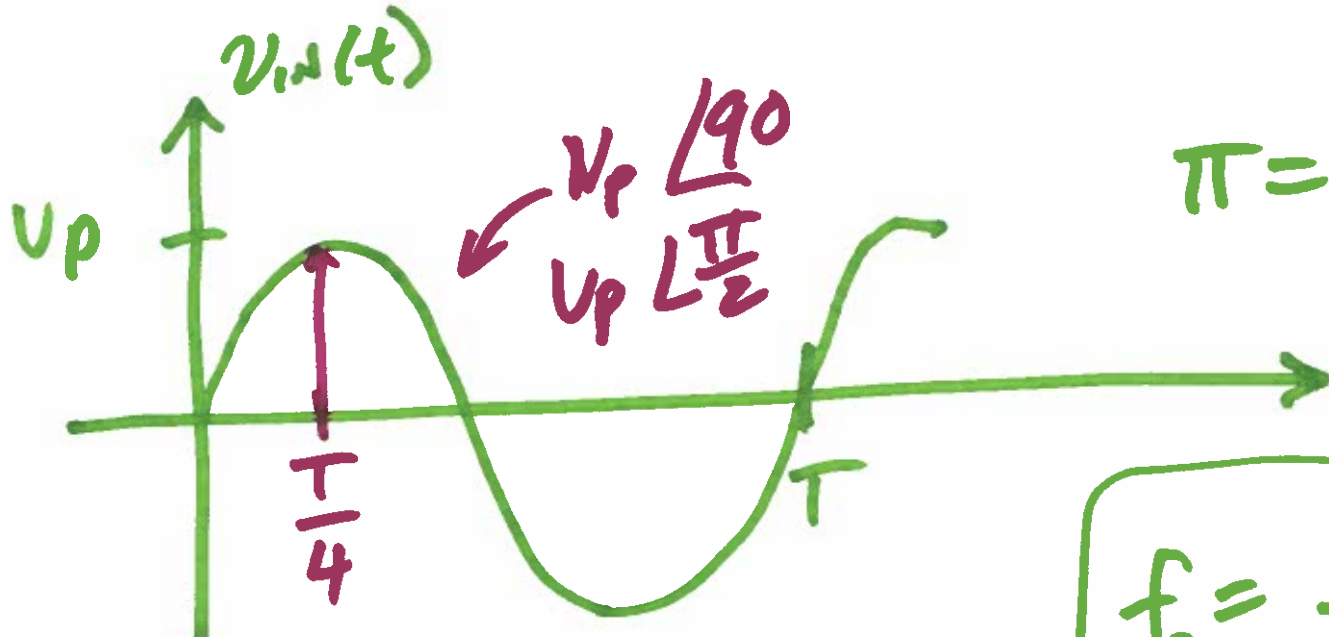
# EE 220 circuits 1

Lecture 21

NOVEMBER 13, 2019



1)



$$\pi = \frac{Circ.}{2r}$$

$$2\pi = \frac{Circ.}{r}$$

$$f_0 = \frac{1}{T}$$

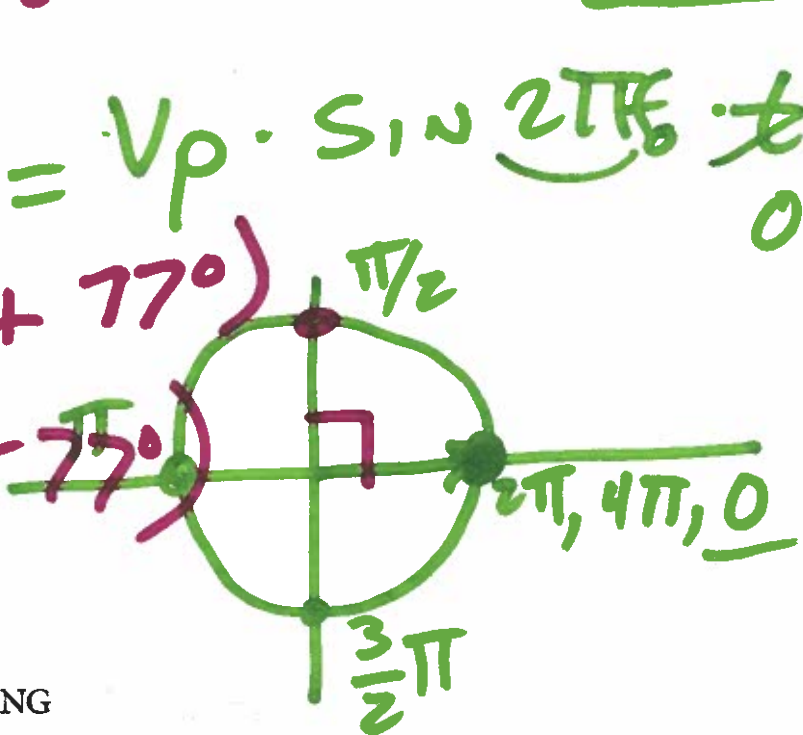
~~$$\frac{\pi}{2} = 90^\circ = \phi$$~~

$$\frac{\pi}{2} = 90^\circ$$

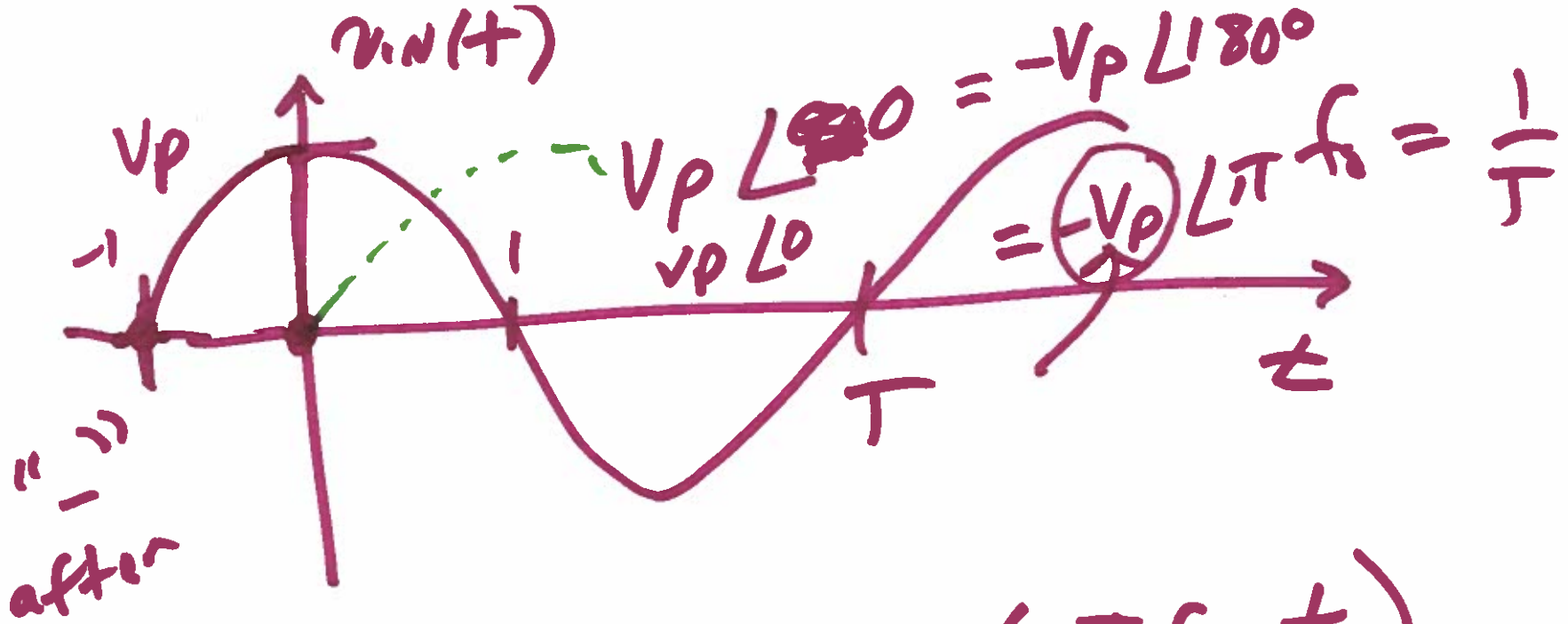
$$v_{in}(t) = V_p \cdot \sin(2\pi f_0 t)$$

$$V_p \cdot \sin(2\pi f_0 t + 77^\circ)$$

$$V_p \sin(360 \cdot f_0 t + 77^\circ)$$

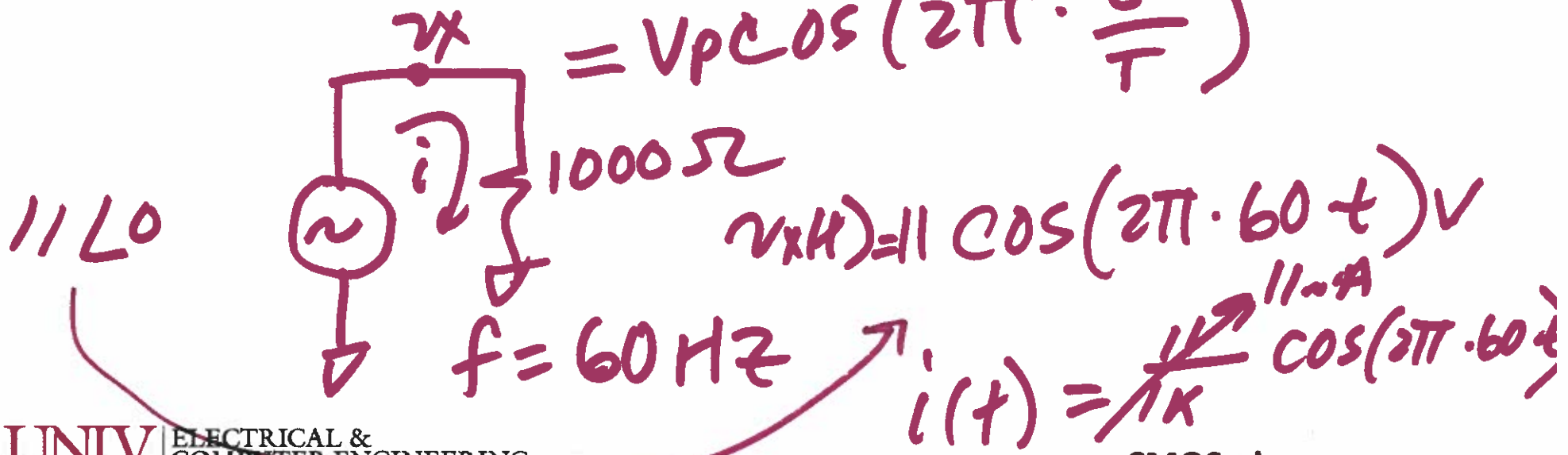


2)



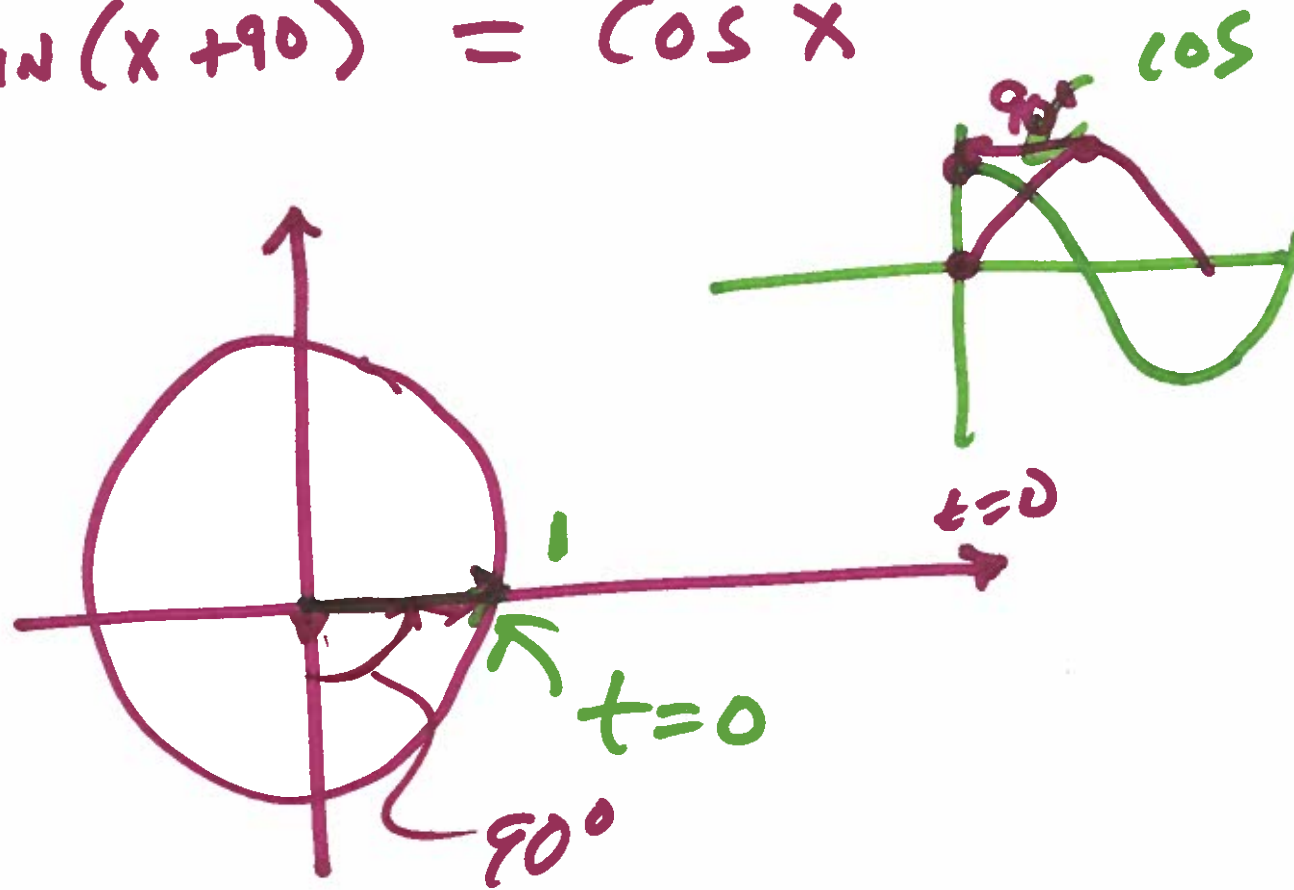
$$v_{in}(t) = V_p \cos(2\pi f_0 \cdot t)$$

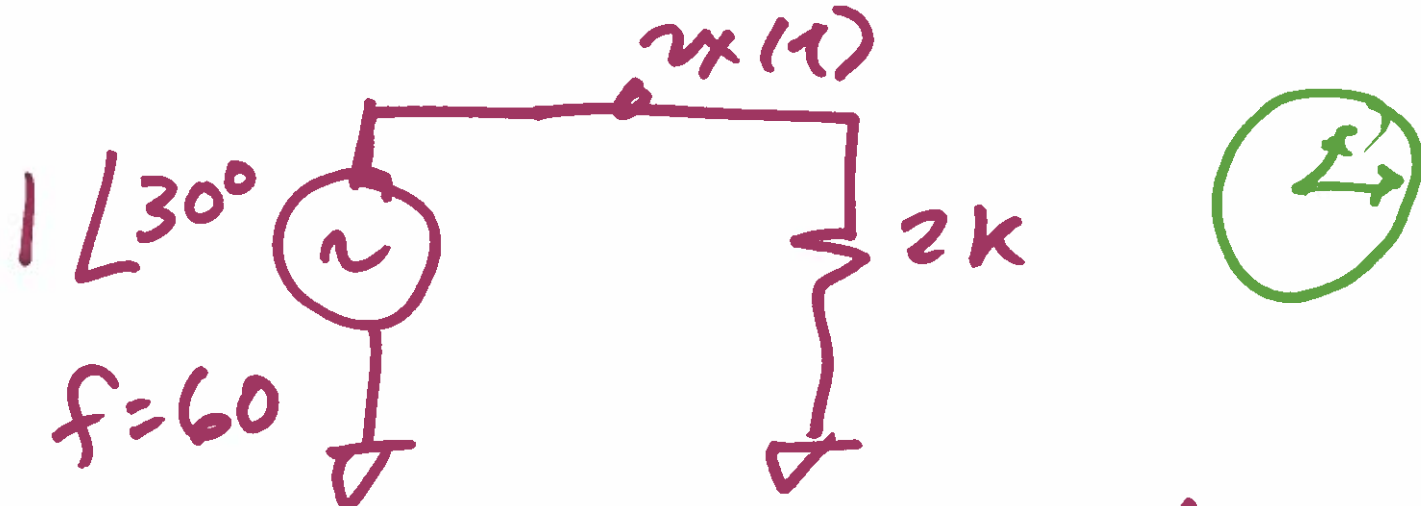
$$= V_p \cos\left(2\pi \cdot \frac{t}{T}\right)$$



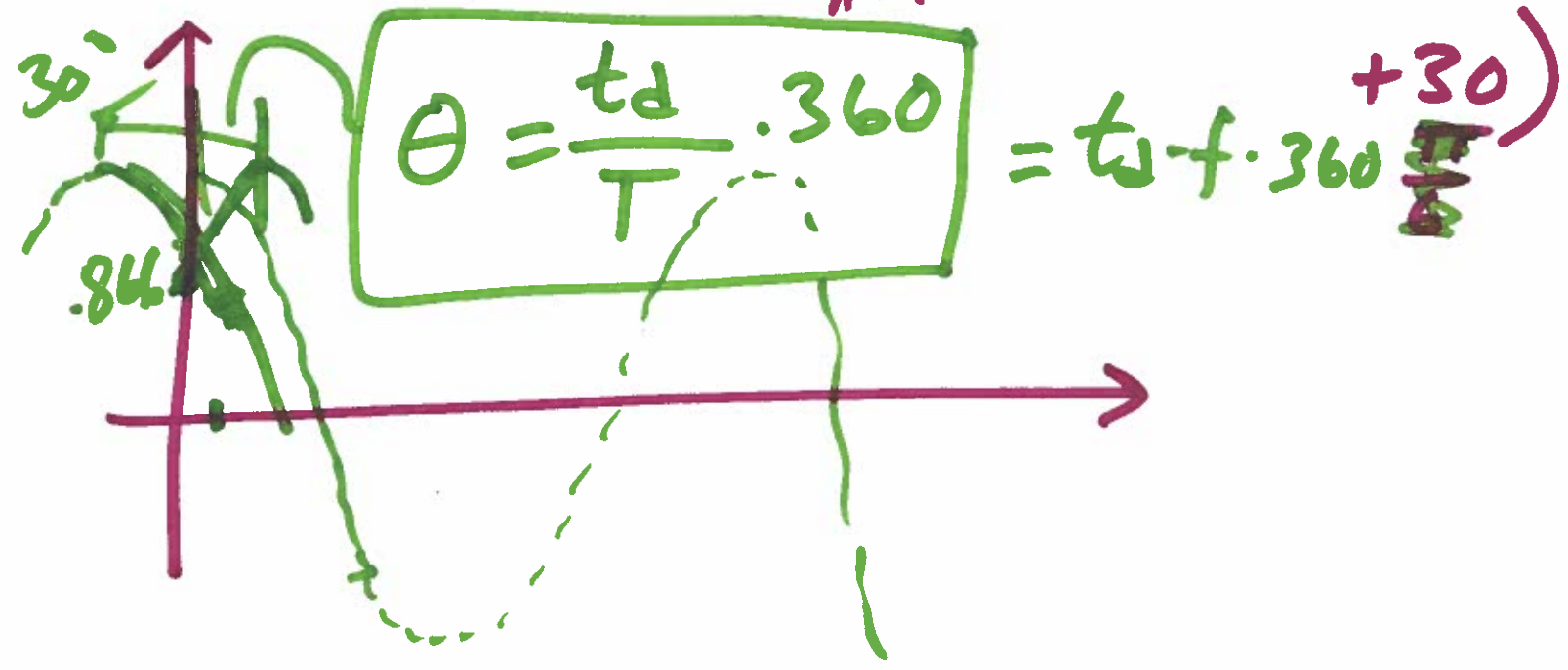
3)

$$\sin(x + 90^\circ) = \cos x$$





$$v_x(t) = \cos(2\pi \cdot 60 \cdot t$$



5)