



**SSCT**

*"For Nation's Greater Heights"*

1.8.16. peer teaching;

# Online Class Discussions

Classwork for Circuits 2 ECE 3A x Meet - caf-bkmo-yx x Messenger x +

meet.google.com/caf-bkmo-yx?authuser=0

You're presenting to everyone Stop presenting

**V<sub>1</sub> and V<sub>2</sub>**

$$V_1 = IZ = (1.5 \angle 0^\circ)(20 \angle 53.13^\circ) = 30 \angle 53.13^\circ$$

$$V_2 = IZ = (1.5 \angle 0^\circ)(26.67 \angle -90^\circ) = 40 \angle -36.87^\circ$$

**Phasor diagram** Note on the phasor diagram in Fig. 2.13 that the current  $i$  is in phase with the voltage across the resistor and leads the voltage across the capacitor by  $90^\circ$ .

Line values in the time domain:

$$i = \sqrt{2}(1.5) \cos \omega t = 2.12 \cos \omega t$$

$$v_1 = \sqrt{2}(30) \cos(\omega t + 53.13^\circ) = 42.43 \cos(\omega t + 53.13^\circ)$$

$$v_2 = \sqrt{2}(40) \cos(\omega t - 36.87^\circ) = 56.56 \cos(\omega t - 36.87^\circ)$$

A plot of all of the voltages and the current of the circuit appears in Fig. 2.14. Note again that  $i$  and  $v_1$  are in phase and that  $i$  leads  $v_2$  by  $90^\circ$ .

2:47 PM | bzt5qkr5cm

Faculty-Evaluatio...docx Show all

ENG 2:47 pm