

Name : \_\_\_\_\_ Section: \_\_\_\_\_ CWRU e-mail: \_\_\_\_\_

Department of Electrical Engineering and Computer Science  
**ENGR 210. Introduction to Circuits and Instruments (4)**

**Quiz No. 11**

**4/8/05**

**PUT ANSWERS IN THE SPACE PROVIDED AND, IF APPROPRIATE, SHOW YOUR WORK. BE SURE TO STATE ANY ASSUMPTIONS**

**Problem 1 Elementary phasors, (10 points)**

Use phasors to combine the following sinusoidal functions into a single trigonometric expression. Your answer should be expressed as a real function.

$$y = 40 \cos(\omega t + 60^\circ) + 80 \sin(\omega t + 135^\circ) - 100 \cos(\omega t + 270^\circ);$$

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**Problem 2 Phasor circuits, (10 points)**

Find the steady state expression for  $i_o(t)$  in the circuit below if  $v_s(t)=100\sin(50t)$  millivolts.

