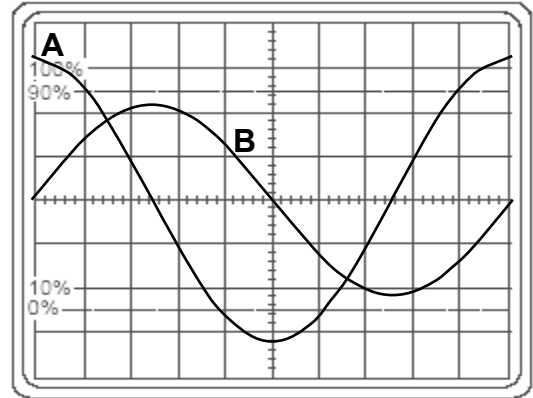


Name: \_\_\_\_\_ Lab Section: \_\_\_\_\_ Date: \_\_\_\_\_

## PreLab: AC Circuits

**Instructions:** Prepare for this lab activity by answering the questions below. Note that this is a **PreLab**. It must be turned in at the start of the lab period. Time cannot be given in lab to perform PreLab activities. After the start of lab activities, PreLabs cannot be accepted. Explain your answers. Points will be taken off if your work is not neat and well organized.

1. (3 points) In the figure to the right, does curve A “lead” or “lag” curve B?
2. (6 points) In the curve to the right, the vertical scaling knob is at 2 Volt/Div and the horizontal scaling knob is at 2 ms/DIV.



A) What is the time difference in the curves? (Show your work.)

B) What is the phase difference in the curves in radians? (Show your work.)

C) What is the phase difference in the degrees? (Show your work.)

3. (6 points) You connect a resistor, an inductor and a capacitor in series and measured the electric potential across each ( $V_R$ ,  $V_L$ , and  $V_C$ .) You also measured the input potential  $V$ . If you had measured  $V_R = 25\text{ V}$ ,  $V_L = 65\text{V}$ , and  $V_C = 55\text{V}$ , then what is the input voltage  $V$ ? Show your work.